Alcohol and Drug Abuse in Patients With Affective Syndromes

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Levels of drug and alcohol abuse were assessed in a large sample (n = 835) of patients with affective syndromes. Almost one-fourth of the patients had abused alcohol or drugs at a clinically significant level during their current episode. Multiple regression techniques were used to assess whether certain characteristics were associated with increased alcohol or drug use in this sample, as they had been previously in epidemiologic surveys. Being younger, male, nonmarried, lower socioeconomic status, and having a low degree of religious involvement were all associated, with some differences in how these effects worked for alcohol and for drugs. This corresponds well with findings from major community surveys. Better treatment outcomes may be achieved if clinicians take these findings into account. Implications for research into affective disorders as a risk factor for substance abuse are suggestive but less clear.

IDENTIFICATION of patients who are likely to abuse drugs or alcohol during an episode of major effective disorder is of interest to most clinicians, as a patient's substance abuse may seriously compromise treatment. This is perhaps most obvious when the patient receives somatic treatment, since psychotropic medication may interact adversely with alcohol intake or nonprescribed drugs. However, the process of psychotherapy may be adversely affected as well: Hall et al.[1] showed that therapists unaware of their patients' drug abuse (ascertained independently through urinalysis) more often cancelled these patients' appointments and misdiagnosed their primary disorders, compared to control patients who were not covertly abusing drugs. Covert drug abusers in this study were also less likely to improve in treatment. Even inpatients may continue to drink or use nonprescription drugs[2] and such patients may prove to be puzzlingly refractory to a good treatment outcome. If alerted to information on which patients are likely to abuse alcohol or drugs, clinicians may inquire for these conditions more systematically. Treatment plans would then be based on more complete information.

Additionally, the incidence of alcohol and drug abuse in patients with affective syndromes is of interest to researchers investigating risk factors for substance abuse. The presence of an affective syndrome (or the predisposition to develop one) may precipitate the misuse of alcohol or drugs in some individuals, or exacerbate misuse in those already drinking or using drugs dysfunctionally. In this case, patients with an affective syndrome may have generally increased rates of drug or alcohol abuse.

compared to nonpatients, or increased rates might be concentrated in a particular subgroup of patients (such as women compared to men).

Depression in alcoholics or drug abusers has been assessed in many studies. In spite of much methodological variation, the findings have been fairly consistent: Patients in treatment for alcoholism or drug abuse generally have higher rates of depressive symptomatology or depressive disorders than rates seen in the general population.[3-7]

However, there is relatively little data on alcohol and/or drug problems in patients seeking help for depression. Several studies ascertained rates of substance abuse in groups of psychiatric patients having unspecified or mixed diagnoses[1,2,8-10] and found these rates to be high. However, we found no study that examined alcoholism and/or drug abuse in a group of patients treated specifically for a major depressive or manic syndrome.

In this report, we analyze the patterns of alcohol and drug abuse in a large, heterogenous group of patients with a current episode of major affective syndrome (manic or depressive). We compare various ways of subgrouping patients to assess which categorizations are associated with increased rates of alcohol or drug problems during a current affective episode. We then compare our findings to data on the distribution of drug and alcohol problems in general populations.

MATERIALS AND METHODS

Subjects

The subjects for this study were the patients who participated in the NIMH Clinical Research Branch Collaborative Program on the Psychobiology of Depression[11] (the "Collaborative Study"). The background and design of the Collaborative Study have been described in detail elsewhere.[11] Patients were recruited from inpatient and outpatient treatment units associated with five sites: Harvard Medical School in Boston, Rush Medical Center in Chicago, Iowa Medical School in Iowa City, the College of Physicians and Surgeons at Columbia University in New York City, and Washington University Medical School in St. Louis. At the time these analyses were done, complete data on all variables of interest were available on 835 patients. Patients were entered into the study from 1978 to 1981.

Measures

All patients met Research Diagnostic Criteria (RDC)[12] for a definite major depressive or manic syndrome at the time of admission into the study, either Schizoaffective (manic or depressed), Bipolar I, Bipolar II, or Unipolar. Each subject's psychopathology and functioning were measured by the Schedule for Affective Disorders and Schizophrenia (SADS),[13] a diagnostic procedure carried out by highly trained raters. Reliability of diagnosis for major affective syndromes on the SADS ranged from good to excellent in test-retest reliability evaluations done for the Collaborative Study.[14,15]

Alcohol and drug abuse during the index episode were measured separately on six-point scales (Table 1). Raters completing the SADS reviewed the clinical record, and used the suggested probes in the SADS to inquire for any evidence of alcohol or drug abuse. If such evidence emerged, the rater then explored these areas fully with the subject. The ratings of alcohol and drug abuse on the SADS indicated these problems at their worst level during the current affective episode. Note that unlike procedures in many other studies, which have equated virtually any drug use with drug abuse, the SADS drug scale requires some type of problem to be associated with the drug use for its use to be considered clinically significant. Approximately 12% of the patients scoring three or higher on the SADS alcohol scale did not meet full RDC criteria for alcoholism, and approximately 6% of the patients with SADS drug scale scores of three or more did not meet RDC criteria for drug use disorder. The test-retest reliability of the alcohol scale in patients with affective syndromes in the Collaborative Study was shown to be excellent (.91) while that for the drug scale was good (.63).[16] Sociodemographic characteristics and other information were collected soon after admission to the study.

Table 1. SADS Scales for Alcohol and Drug Abuse, With Proportions of Collaborative Patients at Each Level

	Alcohol Abuse					Drug Abuse			
Level	Definition	Total (N = 835) (%)	Male (N = 354) (%)	Female (N = 481) (%)	Level	Definition	Total (N = 835) (%)	Male (N = 354) (%)	Female (N = 481) (%)
1	None or clinically insignificant	61.9	51.4	69.7	1	Not at all	73.3	67.5	77.6
2	Occasionally needs alcohol to feel good, to relax, or to go to sleep	14.4	17.5	12.1	2	Clinically insignificant, e.g., occasional use of marijuana, or amphetamines to stay awake	17.7	22.3	14.4
3	Some minor interference in functioning or often needs alcohol to feel good, to relax, or to go to sleep	12.7	15.5	10.6	3	Some minor interference with normal functioning or cannot feel good without use of the drug	6.2	6.2	6.2
4	Major interference in job, social, or family functioning, e.g., often unable to work	7.8	10.5	5.8	4	Drug use results in important modifications in his life, often takes an addicting drug, or has withdrawal symptoms	1.7	1.7	1.7
5	Gross interference in job, social, or family functioning, e.g., unable to work at all	1.4	2.0	1.0	5	Drug use results in major changes in her life or frequently takes an addicting drug, e.g., hospitalized because of drug use	0.5	0.9	0.2
6	Major activities revolve around drinking and is grossly unable to function in social and occupational roles	1.8	3.1	0.8	6	Drug use results in major disruption in life, e.g., major activities revolve around getting drugs	0.6	1.4	0.0

Independent Variables

The patient characteristics assessed in this report were mainly sociodemographic, and were selected among many possible variables because they had been found to be differentially associated with substance use and abuse in community studies (see below). The characteristics analyzed were (1) sex, (2) age, (3) marital status, (4) socioeconomic status (an unweighted sum of income level, education level, and occupational prestige level as defined by the Hollingshead and Redlich two-factor index[17]), (5) current religious identification, (6) current level of religious involvement (low, moderate, high, or not involved), and (7) religious background. We also included (8) type of current affective syndrome. In earlier analyses, we differentiated among all the types of affective syndromes described in the "measures" section above, (i.e., schizoaffective manic, schizoaffective depressed, bipolar I, bipolar II, or unipolar) but collapsed these into two groups, bipolar or unipolar only, when the finer distinctions failed to show a significant effect.

Analysis

Multiple regression procedures were used to analyze the relationship between each of the patient characteristics and alcohol and drug abuse. A multivariate multiple regression was done first, testing the effect of each of the patient variables on the dependent variables, drug and alcohol abuse, simultaneously.[18] This procedure is used to protect against the possibility of spurious findings arising simply because many separate tests have been done. Once significant relationships have been found between the independent and dependent variables in a multivariate multiple regression, the results of separate univariate tests for each dependent variable may be accepted with more confidence. We also performed separate univariate multiple regressions for each dependent variable, drug abuse and alcohol abuse.

The Hotelling-Lawley trace function was used as the test statistic for the multivariate multiple regression. Type IV sums of squares were used in the univariate analyses, and therefore the effect of all other variables was held constant when each patient characteristic was assessed. Site, i.e., the medical center from which the patient was recruited, was included in the regressions as an independent variable, since we wished to control for the effects of this, although we were not interested in analyzing effects due to site. The computer analyses were done with SAS (Statistical Analysis System).[19] A log transformation of the dependent variables was performed so that the assumptions of the statistical model would be better met. This did not actually affect any of the findings.

RESULTS

As shown in Table 2, 42.4% of this group of patients were male and 57.6% were female. Over half of the sample was below the age of 30, with the remainder ranging in age into the seventies. (Due to inclusion criteria of the study, no subject was younger than 17 years of age.) Slightly more than 42% of these patients were married. About 70% had family incomes of less than $21,999, and only about 15% had not finished high school. Approximately 40% stated their religious identification as Protestant and the rest were in other religious categories. Slightly more than 37% of the group said that they were not involved in any religion currently, with the rest ranging from low to high involvement.

In the alcohol and drug scales, as in the rest of the SADS scales, a rating of three or higher indicates evidence of clinically significant psychopathology, although this does not necessarily mean that the subject meets criteria for an RDC diagnosis of substance abuse. For descriptive purposes, we have presented information on the percentages of patients in different categories who scored three or higher on the drug and alcohol scales. The reader should remember, however, that the entire range of ratings was used in the statistical analyses.

As shown in Table 1, a sizeable minority, 23.7% of the patients, scored three or higher on the SADS alcohol scale. A smaller percentage showed evidence of clin-

Table 2. Percentage of Patients Scoring Three or More on SADS Alcohol and Drug Scales

Category (%)	Alcohol Abuse 3+ on SADS Scale	Drug Abuse 3+ on SADS Scale
Total (100)	23.71	8.98
Sex		
Male (42.4)	31.07	10.17
Female (57.6)	18.30	8.11
Age		
<19 (2.9)	33.33	29.17
20–29 (31.5)	19.84	15.97
30–39 (26.8)	25.00	8.04
40–49 (15.8)	18.94	3.03
50–59 (12.8)	24.30	2.80
60–69 (7.3)	9.84	0.00
70–79 (2.9)	8.33	4.17
Marital status		
Living together (1.9)	18.75	0.00
Divorced (14.5)	32.23	11.57
Separated 3–12 mos (2.5)	42.86	14.28
Widowed <12 mos (1.6)	7.69	7.69
Never married (32.2)	27.05	14.13
Homosexual, living together (1.1)	11.11	33.33
Separated 12 mos+ (1.9)	50.00	0.00
Widowed 12 mos+ (2.2)	0.00	0.00
Married/common-law (42.2)	18.18	4.54
Income		
Up to 21,999 (70.4)	23.98	10.20
22,000 · (29.6)	23.08	6.07
Education		
At least some college (56.1)	24.57	9.83
High school graduate (28.5)	23.53	9.24
Less than high school (15.4)	20.93	5.43
Current religious identification		
Protestant (40.4)	21.36	7.72
Catholic (36.9)	28.25	8.44
Jewish (11.1)	13.98	10.75
Other (2.4)	25.00	10.00
None (9.2)	27.27	14.29
Religious background		
Some Catholic influence (42.6)	29.21	9.55
No Catholic influence (57.4)	19.62	8.56
Current religious involvement		
High (13.9)	14.66	4.31
Moderate (22.9)	22.51	4.71
Low (25.6)	21.50	6.54
Not involved (37.6)	28.66	14.97

ically significant drug problems, with 9.0% scoring three or above on the SADS drug scale.

The simultaneous multivariate multiple regression tests for alcohol and drug abuse showed that several of the patient characteristics were related at a highly significant level to both of these problems (Table 3). The characteristics that were related to both alcohol and drug problems in these patients were sex, age, marital status, SES, and level of religious involvement. The diagnostic bipolar/unipolar dinstinction was not significantly related. Type of current religious affiliation was

Table 3. Multivariate Multiple Regression Results

Characteristic	F	df	P
Sex	7.96	2, 809	<.001
Age	24.50	2, 809	<.001
Marital status	2.57	16, 1616	<.001
Religious involvement	9.97	2, 809	<.001
SES	3.77	2, 809	.024
Religion	.80	8, 1616	.600
Religious background	1.47	2, 809	.232
Diagnosis	.38	2, 809	.682
SES by sex	4.57	2, 809	.011
Age by sex	.68	2, 809	.506

not significantly related in this analysis, nor was the patient's religious background. The fact that the SES/sex interaction term was significant indicates that socioeconomic status worked differently for men than for women, while the lack of significance of the age/sex interaction term showed that there was no difference in the age effect for males and females.

Having established these results at a high level of confidence, we performed separate multiple regression analyses for drug and alcohol abuse, to ascertain the directions of these effects and to make more detailed comparisons between alcohol abusers and those having problems with drugs (Table 4). In this sample, men abused both alcohol and drugs more than women did. Younger patients were also more likely to abuse alcohol and drugs.

Table 4. Univariate Multiple Regression Results

	F	df	P
Alcohol			
Characteristic			
Sex	13.69	1	<.001
Age	11.70	1	<.001
Marital status	2.69	8	.006
Religious involvement	7.30	1	.007
SES	3.24	4	.012
Religion	.71	1	.400
Religious background	.96	4	.087
Diagnosis	2.93	1	.381
SES by sex	.77	1	.003
Age by sex	8.66	1	.681
	.17	1	
Drug			
Characteristic			
Sex	5.64	1	.017
Age	45.86	1	<.001
Marital status	2.38	8	.015
Religious involvement	16.96	1	.001
SES	2.82	4	.024
Religion	5.40	1	.020
Religious background	.31	4	.871
Diagnosis	.18	1	.667
SES by sex	.05	1	.831
Age by sex	2.00	1	.157
	1.35	1	.245

While marital status was significantly associated with the level of both alcohol and drug problems, the particular marital categories that showed an increase were not identical for alcohol and drugs. Using "married" as a standard against which to compare other marital statuses, alcohol abuse was associated with being divorced or separated 12 months or longer. Drug abuse, on the other hand, was associated with never having been married, being divorced, or living together in a long-term homosexual relationship.

As mentioned, patients' current religious identification was not significantly associated with level of drug or alcohol abuse. However, there was an inverse relationship between level of religious involvement and the extent of both drug and alcohol problems. Religious background showed a trend for increased scores for alcohol problems in those with a Catholic background, but this did not quite reach significance.

Although socioeconomic status was significantly related to both alcohol and drug abuse, the effect worked somewhat differently in each case. For drug abuse, the lower the subject's score on the SES variable, the more likely he or she was to abuse drugs, and this was true to the same extent for both men and women. However, for alcohol, socioeconomic status was only significant when considered in conjunction with sex. Here, the sex difference was smallest for those of highest status, and widened with decreasing socioeconomic level. Thus, men in the lowest socioeconomic group were most likely to report alcohol problems.

DISCUSSION

How do the above findings compare to drug and alcohol problems in the general population? To answer this, we turned to the population-based epidemiologic literature on alcohol and drug use and compared our results with these studies. (We limited our comparisons to studies of adults, and studies that used random or systematic samples of subjects who were not members of small, special groups.)

First, how do the overall rates of alcohol and drug abuse in the patients with affective syndromes in the Collaborative Study compare to rates in community samples? Unfortunately, this is not a simple question to answer. Definitions used for substance abuse in population surveys vary widely, reflecting the heterogeneity of viewpoints of investigators working on these topics, and the inclusiveness or exclusiveness of a given definition usually has a clear-cut influence on the size of the rate determined in a study. Sampling also has an effect, as some studies looked only at subjects likely to be at increased risk, while others were not limited in this way. Some investigators were not interested in arriving at an overall rate, focusing instead on relationships between subgroups for various manifestations of alcohol or drug-related problems; the best indicator of a rate from these studies was not always obvious.

Given these difficulties, can anything be said about whether or not the patients in the Collaborative Study had high frequencies of alcohol and/or drug problems? We think that some tentative conclusions can be drawn. Tables 5 and 6 summarize the information on the prevalence of alcohol and drug use and abuse from a number of studies, as well as notes on definitions and samples used, information necessary in interpreting the numbers given. When the community rates are compared to the

Table 5. Rates of Alcohol Use/Abuse in Community Surveys

Rate	Criteria	Sample
8%	Drinking nearly every day, having 5 or more drinks "at least once in a while," or drinking about once a week, 5 or more per occasion.	Random sample of contiguous U.S., 2746 subjects, 55% female, 92% white, all subjects residents of households.[20]
12%	Heavy intake or binge drinking, plus evidence at a given severity level of social, financial, and/or health consequences.	National probability sample of 1561 male household residents aged 21 to 59. Light drinkers, abstainers, non-urban residents, and those residing with other adult males under-represented.[21]
4.1%	11 or more drinks at least once in last month.	Random sample of U.S. Adult 18 or over in households, sample size 5059.[22]
2.6%	RDC, ascertained with lifetime version of SADS.	510 men and women followed up for the second time in a systematic sample of residents of New Haven, CT.[23]
14.6%	Possible or definite on the SMAST (24): 2 or more items positive out of 13.	1574 men and women employed in federal agencies or large conglomerate. Random sample. Mean age, early 40s, mean education about 1 year of college.[25]
12%	Any one of the following problems: loss of control, binges, dependence, health worries, social problems, driving, police or job problems.	1772 respondents age 18 or older living in households in the contiguous U.S. Probability sample.[26]
4.5% 4.8% 5.7%	DSM-III alcohol abuse/dependence, as operationalized by the DIS.	9543 adult household residents of St. Louis, New Haven, and Baltimore, respectively. Different systematic sampling schemes in each city, rates adjusted to reflect 1980 census population distributions.[27]

rates in the Collaborative Study (See Table 1), one sees that the frequency of alcohol and drug problems (i.e., a SADS scale score of three or more) in this patient group is quite high.

Next, are the characteristics of alcohol and or drug abusers in the Collaborative Study similar to what one finds when this question is investigated in community surveys? Due to methodological issues, this question cannot be answered precisely, but general comparisons are possible. Using material from the same studies cited above in the discussion of overall rates, we look at alcohol problems first, and then drug problems.

Perhaps the most consistent finding in the literature is that there is always a sex difference in use and abuse of alcohol. Males drink more, more often, have more alcohol-related problems, and receive a diagnosis of alcoholism more often than women.[21-27] Writers in the popular literature as well as professional journals (i.e., Volicer[25] have discussed the possibility of recently increased prevelence of alcohol problems for women due to changing lifestyles or expectations, but the most current community studies[27] have shown that the pronounced gender difference persists. As noted above, this male-female difference is also found in the patients with affective syndromes.

Another fairly consistent finding is that alcohol problems tend to occur more frequently in younger age groups[21,22,25-27] although, in Myers et al.,[27] the age categories given were very broad and the trend was not completely linear. Weissman

Table 6. Rates of Drug Use/Abuse in Community Surveys

Rate	Criteria	Sample
2% 14%	Self-perceived and reported problems with health or one of several areas of social functioning. No overall rate as figures were reported separately by type of drug.	2510 males, sampled to be representative of all U.S. males between 20–30. Names from the Selective Service list.[26]
1.0%	RDC drug abuse.	510 men and women followed up for the second time in a systematic sample of residents of New Haven, CT.[29]
6.8%	Self-report that "steady use of marijuana made me stop caring and not try as hard."	4117 adults over 18. Probability sample of households in U.S.[22]
7.4%	Score on a scale measuring addictiveness and recency of drugs used, number of drugs, and intention to use them again. Cut-point for positive set at about 1 standard deviation above the mean score.	National probability sample of 3071 adults.[30]
10.1%	Used marijuana regularly, four or more days a week for the last year.	1322 adults aged 24–25, followed up in 1980 from a study of high school students in New York State done in 1971. Results weighted to reflect entire 10th and 11th grade population in 1971.
1.8% 2.2% 2.3%	DSM-III drug abuse/dependence, as operationalized by the DIS.	9543 adult household residents of New Haven, St. Louis, and Baltimore, respectively. Different systematic sampling schemes in each city, rates adjusted to reflect 1980 census population distributions.[27]

et al.'s data conflict with this[23] but the number of cases in this study was extremely small and hence likely to be unstable. The age trend in the community data corresponds to the age distribution of alcohol problems in the Collaborative Study patients, with a general tendency toward decreased frequency of alcohol problems in the older age groups, although again, without a perfectly consistent decrease in successively older age groups.

In general, the studies that reported marital status showed that subjects who were single, divorced, or separated had alcohol problems more often than those who were married or widowed,[20,21,23,25] although one study[26] showed increased rates in widowers. In the patient sample, aspects of this general trend emerged also; married and widowed subjects were less likely to abuse alcohol than those who were separated or divorced. Patients who had never been married did not have an increase in alcohol problems that was statistically significant in the univariate multiple regression analysis, even though a fairly high percentage of them scored three or above on the SADS alcohol scale. We think that this might be explained by the fact that this marital status is associated with (and therefore confounded with) being younger. With age controlled in the regression analysis, the "never married" effect dropped out.

Indicators of socioeconomic status were presented in four studies on the community prevalence of alcohol problems.[20,21,23,25] In each study, higher risk of alcohol problems or alcoholism was associated with lower socioeconomic status, a rela-

tionship which corresponds, particularly among males, to the finding among the patients with affective syndromes.

Cahalan and Weissman have reported on the relationship between alcoholism and religion. Cahalan consistently found that Catholics tended to have more problems with drinking.[20,21] Weissman did not find this relationship in a much smaller sample.[23] As noted above, religion was not significantly associated with drinking problems in this patient group, and religious background showed only a trend toward significance in a direction consistent with Cahalan's work.

Cahalan et al.[20] also found an inverse relationship between church attendance and heavy drinking. The Collaborative Study patients were not asked specifically about going to church, but they were asked about religious involvement in general, which includes church-going. As described, a patient's religious involvement was inversely related to alcohol problems, which corresponds to Cahalan's findings.

Fewer commmunity studies provide information on the relationships between drug abuse in adults and the personal characteristics in which we were interested. From the available information, males were more likely to use and abuse drugs than females.[22,27,30,31] In the one study[27] that allowed comparison between the sex differences in alcohol and drug abuse, the sex difference was more pronounced for alcohol than for drugs. This corresponds well with the results from our patient group.

Four studies[22,27,28,30] reported on the association of age with drug abuse across a wide range of ages. They were consistent: younger adults in the community were much more likely to have used and/or abused drugs than older ones. This also corresponds to our results.

Both Boscarino[30] and O'Donnell et al.[28] found that their married subjects were less likely to abuse drugs than their unmarried ones and Kandel[31] reported that those who used marijuana regularly were less likely to be married than those who did not. These authors did not report their data in a way that permits direct comparisons of all unmarried categories used in the Collaborative Study, but the married/unmarried difference they found is consistent with our data.

The information from the community surveys on socioeconomic status and drug abuse was less satisfactory for making patient-community comparisons than the data for the characteristics discussed above. We found four reports on education[20,29-31]; no consistent trend seemed to emerge from them. O'Donnell et al.[28] reported that there were more current drug users among the unemployed but Kandel[31] did not find a significant association between employment status and increased marijuana use. No study reported a combined measure of income, education, or occupational prestige, or even a combination of two of these factors in association with drug abuse. Therefore, without a clear-cut trend in the general population, there is no baseline with which to compare the patient group's inverse relationship between socioeconomic status and drug use.

We located only one study that used population-based data on adults to investigate the relationship between religious involvement and drug use. Kandel[31] found that young adults who used marijuana regularly were less likely to have attended religious services at least once in the previous year than nonusers, or those who used marijuana less frequently. Although this data comes from a sample of very

limited age range, it agrees with our finding on the patients in the Collaborative Study.

To summarize, a high proportion of the patients with an affective syndrome abused drugs or alcohol during their affective episode at a clinically significant level. The distribution of substance abuse among subgroups of patients was similar, in many respects, to the distribution of these problems in community residents, although exact comparisons in ratios between patient and community groups are impossible because of differences in definitions and procedures. Therefore, while no subgroup of patients seemed to be at unexpectedly high risk, the presence of an affective syndrome was associated with increased rates of alcohol and drug problems across almost all patient groups and about one quarter of the patients had some problems with either alcohol or drugs during their current episode.

The patients in this study were not selected to be representative of all patients seeking treatment for affective disorders, and, as a whole, they may be seen as a group with fairly severe disorders. However, to the extent that they do represent patients in treatment for these problems, we may infer that clinically significant alcohol or drug abuse occurs frequently in the context of a serious affective episode.

The implications of these findings seem clear for clinicians. To the degree that patients in the Collaborative Study are representative of patients who seek treatment for depression and other affective disorders, then one must assume that many of these patients have some problem with either drugs or alcohol. Knowledge of a patient's drinking or drug use (and his or her attitudes concerning this behavior) will enable the clinician to work out a more appropriate treatment plan, especially when medication is involved (and, as McClellan et al. note,[2] many subjects seem relieved by the opportunity to discuss alcohol and drug involvement, once rapport on this subject has been established).

Implications for research into affective syndromes as a risk factor for the development of alcoholism or drug use are suggestive, but not clear. To be able to state that affective disorders cause (or contribute to) alcoholism or drug abuse, one would need two types of additional information not available from this data. One would be the time sequence of the onset of the affective disorder and the substance abuse (including those with high SADS drug alcohol abuse scale scores but with no diagnosis of alcoholism or drug use disorder). The other would be information confirming that untreated individuals with a affective disorder had the same high proportion of substance abusers as treated patients. As Berkson has shown,[12] one cannot assume that an association of two illnesses that emerges from treated cases will necessarily hold in an untreated population when each disease has its own probability of referral for treatment.

In sum, then, this study indicates that among patients seeking treatment for depression and other affective disorders, those who have additional problems with alcohol or drugs will most likely resemble individuals in the population who are likely to abuse these substances: individuals who are male, young, unmarried, and/ or of lower socioeconomic status. (However, the treating clinician should not ignore the possibility that substance abuse can occur even in the most unlikely-seeming patients). Affective disorder is associated with high rates of alcohol and drug use, but further research will be required to clarify the nature of this association.

ACKNOWLEDGMENT

REFERENCES

1. Hall RCW, Popkin MK, Devaul R, et al: The effect of unrecognized drug abuse on diagnosis and therapeutic outcome. Am J Drug Alcohol Abuse 4:455–465, 1977

2. McLennan AT, Druley KA, Carson JE: Evaluation of substance abuse problems in a psychiatric hospital. J Clin Psychiatry 39:425–426; 429–430, 1978

3. Schuckit MA: Alcoholic men with no alcoholic first-degree relatives. Am J Psychiatry 140:439–443, 1983

4. Keeler MH, Taylor CI, Miller WC: Are all recently detoxified alcoholics depressed? Am J Psychiatry 136:586–588, 1979

5. Croughan JL, Miller JP, Wagelin D, et al: Psychiatric illness in male and female narcotic addicts. J Clin Psychiatry 43:225–228, 1982

6. Rounsaville BJ, Weissman MM, Rosenberger PH, et al: Detecting depressive disorders in drug abusers. J Affective Dis 1:255–267, 1979

7. Pottenger M, McKernon J, Patrie LE, et al: The frequency and persistence of depressive symptoms in the alcohol abuser. J Nerv Ment Dis 166:562–570, 1978

8. Westermeyer J, Walzer V: Sociopathy and drug use in a young psychiatric population. Dis Nerv System 36:673–677, 1975

9. Fischer DE, Halikas JA, Baker JW, et al: Frequency and patterns of drug abuse in psychiatric patients. Dis Nerv System 36:550–553, 1975

10. Crowley T, Chesluk O, Dilts S, et al: Drug and alcohol abuse among psychiatric admissions: A multidrug clinical toxicologic study. Arch Gen Psychiatry 30:13–20, 1974

11. Katz MM, Secunda SK, Hirschfeld RMA, et al: NIMH clinical research branch collaborative program on the psychobiology of depression. Arch Gen Psychiatry 36:765–771, 1979

12. Spitzer RL, Endicott J, Robins E: Research diagnostic criteria. Arch Gen Psychiatry 35:773–782, 1978

13. Endicott J, Spitzer RL: A diagnostic interview: The schedule for affective disorders and schizophrenia. Arch Gen Psychiatry 35:837–844, 1978

14. Andreasen NC, McDonald-Scott P, Grove W, et al: Assessment of reliability in multi-center collaborative research using a videotape approach. Am J Psychiatry 139:876–882, 1982

15. Andreasen NC, Grove WM, Shapiro RW, et al: Reliability of lifetime diagnosis: a multicenter collaborative perspective. Arch Gen Psychiatry 38:400–405, 1981

16. Keller MB, Lavori PW, Andreasen NC, et al: Test-retest reliability of assessing psychiatrically ill patients in a multi-center design. J Psychiat Res 16:213–227, 1982

17. Hollingshead A, Redlich F: Social Class and Mental Illness, New York, John Wiley and Sons, 1958, p 387

18. Morrison DF: Multivariate Statistical Methods (ed 2). New York, McGraw-Hill, 1976

19. SAS Users Guide: Basics, Statistics (ed 1982). Carey, NC, SAS Institute Inc., 1982

20. Cahalan D, Cisin IH, Crossley HM: American Drinking Practices. United Printing Services, 1969, Chapter 2

21. Cahalan D, Room R: Problem Drinking among American Men. Rutgers Center of Alcohol Studies, 1974

22. Fishburne PM, Cisin I: National Survey on Drug Abuse: Main Findings: 1979. National Institute on Drug Abuse, Rockville, MD, 1979

23. Weissman M, Myers J, Harding P: Prevalence and psychiatric heterogeneity of alcoholism in a United States community. J Stud Alcohol 41:672–681, 1980

24. Selzer M, Vinokur A, Van Rooijen L: A self-administered short Michigan alcoholism screening test (SMAST). J Stud Alcohol 36:117–126, 1975

25. Volicer B, Cahill M, Smith J: Sex differences in correlates of problem drinking among employed males and females. Drug Alcohol Dependence 8:175–187, 1981

26. Clark WB, Midanik L: Alcohol use and alcohol problems among U.S. adults: Results of the 1979 national survey in alcohol consumption and related problems, Alcohol and Health Monograph 1, DHHS Publication (ADM) 82–1190 USGPO, 1982

27. Myers JK, Weissman MM, Tischler GL, et al: Six-month prevalence of psychiatric disorders in three communities: 1980–1982. Arch Gen Psychiatry 41:959–967, 1984

28. O'Donnell JA, Voss HL, Clayton RR, et al: Young Men and Drugs—A Nationwide Survey. NIDA Research Monograph No. 5, ADM Mo. 76–311. U.S. Government Printing Office, 1976

29. Weissman MM, Myers JK, Harding P: Psychiatric disorders in a U.S. urban community: 1975–1976. Am J Psych 135:459–462, 1978

30. Boscarino J: Predicting drug abuse from social demographic factors: A discriminant function analysis. Addictive Behaviors 6:177–182, 1981

31. Kandel D: Marijuana users in young adulthood. Arch Gen Psych 41:200–209, 1984

32. Berkson J: Limitations of the application of the four-fold table analysis to hospital data. Biometrics 2:47–53, 1946