

## SUBSTANCE USE AMONG THE MENTALLY ILL: Prevalence, Reasons for Use, and Effects on Illness

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*Substance use among a random sample of mentally ill, community-based patients was examined. Current use was found to have declined substantially from a high lifetime prevalence, and a family history of substance abuse was associated with moderate to heavy use. No association was found between heavy substance use and elevated psychopathology, hospitalization, or medication noncompliance. Hospital admissions and some symptoms were less prevalent among users preferring marijuana.*

Recently termed a "crisis" (Brown *et al.*, 1989), the issue of substance abuse among mentally ill people living in the United States raises a number of questions. How does substance use by the mentally ill compare with that by the general population? What are its causes? Do specific drugs exacerbate or ameliorate symptoms of mental illness?

### LITERATURE REVIEW

#### Prevalence

Lifetime substance abuse rates of 33% to 74% have been determined for various schizophrenic samples (Ananth *et al.*, 1989; Cohen & Klein, 1970; Dixon *et al.*, 1989; Safer, 1985)—substantially higher than the general population rate of 17% in the Epidemiologic Catchment Area (ECA) survey (Regier *et al.*, 1990). The ECA study identified a lifetime history of substance abuse in 47% of subjects with schizophrenia and 56% of those with bipolar disorder—prevalence risks exceeded only by those with

antisocial personality disorder (86%) (Regier *et al.*, 1990). Similarly, reported recent substance abuse rates of 29% (Atkinson, 1973) and 40% (Safer, 1985) for schizophrenic samples were considerably higher than the six-month general population figure of 15% in the ECA samples (Regier *et al.*, 1990).

Substance use by mentally ill people, however, may be more readily seen as maladaptive and as exacerbating psychological problems and may, consequently, be labeled abuse. In the study by Ananth *et al.* (1989), for example, only the "occasional" mentally ill user failed to receive a substance abuse diagnosis. Reported differences in abuse rates thus may not indicate whether substance use among the mentally ill is greater than among the general population.

Although Breakey and co-workers (1974) did not find the lifetime substance use rate among schizophrenics (70%) much more frequent than that among nonpsychiatric

*A revised version of a paper submitted to the Journal in October 1992. Authors are at the Mental Health Center of Boulder County, Boulder, CO, and Department of Psychology, University of Colorado, Boulder.*



controls (61%), they found a heavier pattern of use of marijuana, LSD, and amphetamines among schizophrenics. Two literature reviews (Mueser et al., 1990; Schneier & Siris, 1987) agreed that more schizophrenic patients used stimulants and hallucinogens than did the general population, but they disagreed as to whether marijuana use was elevated in this population. Both reviews concluded that alcohol, sedative, and narcotic abuse were not more common among schizophrenic patients.

#### *Reasons for Substance Use*

Why do people suffering from disorders of thinking and mood use hallucinogenic and other psychoactive substances? Khantzian (1985) argued that drug-dependent people use substances to self-medicate painful affective states and other psychiatric symptoms. Other researchers reported that patients with major mental illness may use a variety of substances to control depression (Freed, 1975; Siris et al., 1988; Treffert, 1978), medication side effects (Knudson & Vilmar, 1984; Schneier & Siris, 1987; Siris et al., 1988) or negative symptoms (Dixon, Haas, Weiden, Sweeney, & Francis, 1990; Knudson & Vilmar, 1984; Treffert, 1978).

Mentally ill outpatients interviewed by Test and co-workers (1989) revealed such compelling reasons for substance use as the relief of anxiety and boredom and the opportunity for social contact. Schizophrenic inpatients interviewed by Dixon and colleagues (1990) reported that various substances were effective in reducing depression and anxiety, increasing energy, or alleviating negative symptoms of schizophrenia, but that these substances could increase suspiciousness and hallucinations.

#### *Substance Use and Severity of Illness*

Several researchers (Carpenter, Mulligan, Bader, & Meinzer, 1985; Craig, Lin, El-Defraw, & Goodman, 1985; Crowley, Chesluk, Dilts, & Hart, 1974; Drake & Wallach, 1989; Safer, 1985) have observed a substantial increase in the hospitalization

rate among substance-abusing mentally ill patients. Others (Drake & Wallach, 1989; Hekimian & Gershon, 1968) reported that such patients displayed more psychiatric symptomatology and worse community functioning than nonusers. Stimulants (Janowsky & Davis, 1976) and cannabis (Knudson & Vilmar, 1984; Negrete, Knapp, Douglas, & Smith, 1986; Treffert, 1978) can increase positive symptoms of schizophrenia, such as hallucinations and delusions, but Mueser and colleagues (1990) noted that a history of cannabis use in a sample of schizophrenic subjects was associated with significantly lower Brief Psychiatric Rating Scale (BPRS) scores on the activation (tension and excitement) subscale.

Substance-abusing mentally ill patients appear to be less compliant with medication use (Drake & Wallach, 1989), a difference that may contribute to the worse pattern of illness. The preponderance of inpatient samples in the research, furthermore, may have created a selection bias for cases with an adverse response to substance use. Such concerns are addressed in the present study by evaluating substance use in an outpatient population whose medication compliance is well controlled by assertive community treatment.

#### **METHOD**

##### *Subjects*

Seventy-nine psychotic patients were randomly selected from the caseload of a comprehensive community mental health center. Patients were included if they were 18 through 65 years of age and had been diagnosed with schizophrenia, bipolar disorder, or schizoaffective disorder. Currently hospitalized patients were excluded because hospital confinement restricts substance use. The sample was drawn, using random numbers, from a total of 388 open cases who met these criteria. All selected subjects had long-standing illness (duration three to 34 years; mean, 16.1), ranging in intensity from severe and continuously psychotic to mild.



The agency from which the sample was drawn serves an urban and rural area in Colorado (Mosher & Burti, 1989). Subjects were enrolled in programs of a comprehensive community support system: intensive residential treatment ( $N=5$ ), intensive case management ( $n=36$ ), standard outpatient care ( $N=31$ ), or outpatient care focused on substance abuse in addition to mental illness ( $N=7$ ). All subjects requiring closely monitored treatment were enrolled in intensive case management or residential treatment.

### Measures

Fifty-five subjects consented to a confidential interview by an independent researcher. The interview gathered demographic data and family history for psychiatric and substance-abuse disorders in first-degree relatives using the Family History Version of the Research Diagnostic Criteria (RDC-FH) (Andreasen, Endicott, Spitzer, & Winokur, 1977). It also gathered details of the subject's current and lifetime substance use, reasons for use of the subject's preferred substance, and effects of the preferred drug on symptoms experienced during the prior three months. The interview was adapted from the protocol of Test and co-workers (Test et al., 1989).

A modified version of Cohen and Klein's (1971) measure of multidrug abuse among psychiatric patients was used to code the subject's severity of substance use. Modification entailed the addition of the following substances to the original: alcohol used to the point of intoxication (defined as either feeling a "buzz" or consuming three or more drinks at a sitting), scored like marijuana; anticholinergic agents, benzodiazepines, and methaqualone, scored like amphetamines and barbiturates; "crack" and "freebase," scored like heroin; synthetic narcotics, gasoline, and solvents, scored like glue-sniffing; and cocaine, scored like methamphetamine. The measure was selected because it avoids the difficulties posed in this population by problem- or behavior-

based assessment tools that fail to discriminate between problems arising from substance use and from mental illness.

With the subject's consent, a close family member was contacted where possible and further family history of mental illness and substance abuse gathered (using the RDC-FH). Family members of 24 subjects were interviewed.

Each subject's therapist completed the anchored version of the Brief Psychiatric Rating Scale (BPRS) (Woerner, Manuzza, & Kane, 1988), rating the subject's level of pathology against baseline during the prior three months. The therapist also provided an independent report of the extent of the subject's recent substance use and an estimate of the subject's compliance with medication use. A confidence rating was made of the accuracy of both the subject and the therapist report of substance use. The subject's diagnosis was determined by independent psychiatrists using *DSM-III-R* criteria. The number of hospital admissions during the prior two years was obtained from the subject's treatment record.

The data, therefore, allow examination of current substance use, psychopathology, medication compliance, hospital use, and diagnosis in the entire sample. Analyses of lifetime substance use, drug preference, family history, and reasons for and effects of use are confined to the 55 subjects who agreed to be interviewed.

### Analyses

Multiple *t*-tests revealed no significant differences between the subjects who consented to be interviewed and those who refused, except that refusers were rated on the BPRS as significantly more withdrawn ( $t=-2.20$ ;  $df=77$ ;  $p<.05$ ). Characteristics of the sample are displayed in TABLE 1.

### RESULTS

#### Therapist Substance Use Ratings

Therapists' and subjects' ratings of severity of substance use were similar. When the sample was dichotomized by current substance



Table 1  
PROFILE OF SAMPLE (N = 79)

| CHARACTERISTIC                       | MEASURE        |
|--------------------------------------|----------------|
| Age (mean in years)                  | 38.5 (SD=7.86) |
| Gender                               |                |
| Male                                 | 56 (70.9%)     |
| Female                               | 23 (19.1%)     |
| Ethnicity                            |                |
| Caucasian                            | 73 (92.4%)     |
| Hispanic                             | 3 (3.8%)       |
| Black                                | 3 (3.8%)       |
| Diagnosis                            |                |
| Schizophrenia                        | 46 (58.2%)     |
| Schizoaffective                      | 6 (7.6%)       |
| Bipolar                              | 27 (34.2%)     |
| Hospitalized in past 2 years         | 42 (53.2%)     |
| Age at illness onset (mean in years) | 22.5 (SD=6.53) |
| Duration of illness (mean in years)  | 16.1 (SD=6.92) |
| Age at first substance use           |                |
| Alcohol (mean in years)              | 17.2 (SD=6.44) |
| Other substances (mean in years)     | 19.7 (SD=6.79) |

use, rated as none to mild versus moderate to heavy, therapist and subject were in agreement in 50 cases out of 55 (90.9%) ( $\chi^2 = 35.38$ ;  $df=1$ ;  $p<.0001$ ).

In view of this similarity between therapist and subject ratings, therapist ratings were used in the 24 cases in which the subjects refused to be interviewed. In the remaining 55 cases, the subject's rating was used, except when the therapist rating carried a higher confidence score.

#### Substance Use Prevalence

TABLE 2 displays the prevalence of current substance use in the complete study

Table 2  
COMPARATIVE PREVALENCE OF  
CURRENT SUBSTANCE USE

| SUBSTANCE                | STUDY<br>SAMPLE(%) | NATIONAL<br>SAMPLE(%) <sup>a</sup> |
|--------------------------|--------------------|------------------------------------|
| Alcohol (intoxication)   |                    |                                    |
| 5 drinks in row/2 weeks  | —                  | 33.9                               |
| 3 drinks in row/1 year   | 55.7               | —                                  |
| Marijuana                | 41.8               | 30.8                               |
| Cocaine                  | 3.8                | 13.8                               |
| Other Stimulants         | 3.8                | 7.0                                |
| Tranquilizers            | —                  | 4.3                                |
| Sedatives                | —                  | 2.1                                |
| Tranquilizers, Sedatives | 5.1                | —                                  |
| Hallucinogens            | 11.4               | 3.6                                |
| Narcotics                | 3.8                | 2.6                                |
| Inhalants                | 3.8                | 2.4                                |

<sup>a</sup>Adults aged 19 to 30 in 1988 (Johnston et al., 1989).

sample compared to a national young-adult general population sample (Johnston, O'Malley, & Bachman, 1989).

The lifetime prevalence of the use of marijuana in the study sample was 89.1%; hallucinogens, 61.8%; stimulants, 60.0%; (nonprescribed) sedatives or tranquilizers, 29.1%; narcotics, 45.5%; inhalants, 29.1%; over-the-counter drugs (misuse), 12.7%; and alcohol to intoxication, 92.7%.

The lifetime prevalence of moderate to heavy substance use in the sample of 55 interviewed patients was 76.4%, but such use had declined to 34.5% during the year before interview. There was no association between intensive or substance-related treatment assignment and subjects' improvement from heavy lifetime use to mild current use (perhaps because improved patients are routinely transferred to less intensive treatment).

#### Family History

Among subjects with a lifetime history of moderate to severe substance use, a family history of substance abuse was more common (60%) than among mild or nonusers (30.8%) ( $\chi^2=3.89$ ;  $df=1$ ;  $p<.05$ ). A family history of mental illness was not significantly more common (66.7%) among lifetime moderate to severe substance users compared to mild or nonusers (46.2%), nor among current moderate to severe users (40.0%) compared with mild or nonusers (58.8%).

#### Reasons for Substance Use

TABLE 3 displays subjects' reported reasons for substance use and the single most significant reason given for using the substance of preference.

#### Daily Activity

Only 52.5% of the sample of 55 subjects were involved in structured activities (such as work, school, or treatment where attendance is expected) for more than one hour each weekday. Subjects having no more than one structured hour of activity each



Table 3  
REASONS FOR USE OF PREFERRED  
SUBSTANCE (N=55)

| REASON                  | REASON<br>CITED BY |        | AS MAIN<br>REASON |        |
|-------------------------|--------------------|--------|-------------------|--------|
|                         | N                  | %      | N                 | %      |
| Activity with friends   | 40                 | (72.7) | 12                | (21.8) |
| Relieve anxiety         | 34                 | (61.8) | 7                 | (12.7) |
| Relieve boredom         | 32                 | (58.2) | 4                 | (7.3)  |
| Relieve depression      | 26                 | (47.3) | 3                 | (5.5)  |
| Improve sleep           | 25                 | (45.5) | 1                 | (1.8)  |
| Improve self-esteem     | 24                 | (43.6) | 6                 | (10.9) |
| Feel more likable       | 21                 | (38.2) | 0                 | (0.0)  |
| Feel better physically  | 20                 | (36.4) | 2                 | (3.6)  |
| Relieve pain            | 19                 | (34.5) | 2                 | (3.6)  |
| Feel normal             | 18                 | (32.7) | 2                 | (3.6)  |
| Increase energy         | 17                 | (30.9) | 2                 | (3.6)  |
| Alleviate side effects  | 15                 | (27.3) | 2                 | (3.6)  |
| Stay awake              | 14                 | (25.5) | 0                 | (0.0)  |
| Decrease hallucinations | 6                  | (10.9) | 0                 | (0.0)  |
| Other                   | —                  |        | 8                 | (14.5) |

day were more likely to cite boredom as the single most significant reason for their substance use ( $\chi^2=5.72$ ;  $p<.02$ ) and to be rated lower on tension ( $t=3.55$ ;  $df=53$ ;  $p<.001$ ) on the BPRS. The use of marijuana was positively associated with having fewer than five structured hours of daily activity ( $\chi^2=4.77$ ;  $p<.05$ ). Lack of structured activity was not associated with severity of substance use.

#### Substance Use and Severity of Illness

Psychiatric hospital admissions were no more frequent among subjects with moderate to severe substance use ( $M=1.72$  admissions during prior two years) than mild or nonusers (1.92 admissions). Similarly, baseline psychopathology was no more severe among moderate to severe substance users (mean total BPRS score=43.86) than mild or nonusers (49.22).

The two-year admission rate was significantly lower among those whose drug of preference was marijuana (1.00) compared to the remainder of the sample, including nonusers (2.54),  $t=-2.56$ ;  $df=51.13$ ;  $p<.02$ . Activation symptoms (excitement, tension, and mannerisms) were also significantly lower among those who preferred marijuana than among the remainder (5.81 versus 7.79),  $t=-2.40$ ;  $df=53$ ;  $p<.02$ .

#### Subjective Effects of Substance Use

As is shown in TABLE 4, most subjects who preferred marijuana and reported anxiety, depression, insomnia, or physical discomfort in the prior three months perceived the substance as relieving those symptoms. Only one believed that the drug reduced paranoia or hallucinations. Subjects were much less likely to attribute beneficial effects to alcohol.

#### Treatment Compliance and Substance Use

Compliance with prescribed medication was not associated with overall severity of substance use: 40.8% of compliant and 30.0% of partially compliant or noncompliant patients were heavy substance users. The use of alcohol to the point of intoxication, however, was associated with medication noncompliance: 46.9% of compliant and 70.0% of partially or noncompliant patients were alcohol users ( $\chi^2=4.01$ ;  $p<.05$ ). Medication noncompliance was also associated with higher levels of psychopathol-

Table 4  
EFFECT OF SUBSTANCE USE ON  
SYMPTOMS (N=55)

| SUBSTANCE/SYMPTOM   | N REPORTING SYMPTOM |            |
|---------------------|---------------------|------------|
|                     | BETTER              | SAME/WORSE |
| Alcohol             |                     |            |
| Anxiety             | 4                   | 11         |
| Depression          | 3                   | 7          |
| Insomnia            | 2                   | 3          |
| Feel bad physically | 3                   | 6          |
| Side effects        | 5                   | 4          |
| Paranoia            | 2                   | 7          |
| Hallucinations      | 2                   | 4          |
| Marijuana           |                     |            |
| Anxiety             | 13                  | 0          |
| Depression          | 9                   | 1          |
| Insomnia            | 7                   | 1          |
| Feel bad physically | 6                   | 1          |
| Side effects        | 4                   | 4          |
| Paranoia            | 1                   | 5          |
| Hallucinations      | 1                   | 5          |
| Hallucinogens       |                     |            |
| Anxiety             | 1                   | 1          |
| Depression          | 2                   | 1          |
| Insomnia            | 2                   | 0          |
| Feel bad physically | 1                   | 1          |
| Side effects        | 0                   | 2          |
| Paranoia            | 2                   | 1          |
| Hallucinations      | 0                   | 0          |



ogy (total BPRS=54.0 versus 41.0),  $t=4.39$ ;  $df=77$ ;  $p<.001$ .

## DISCUSSION

### *Prevalence of Substance Use*

Therapist and patient ratings of substance use by members of the sample were in close agreement, confirming Drake and Wallach's (1989) observations but conflicting with Test and co-workers' (1989) finding that staff ratings of patient substance use tend to be higher than subject self-report.

In a general population sample of adults aged 19 to 30 (Johnston et al., 1989) prevalence of current cocaine use (13.8%) was over three times greater than in this study sample of mentally ill adults (3.8%) (see TABLE 2). The use of other stimulants was also greater in the general population sample. However, hallucinogen use by the mentally ill study sample (11.4%) is substantially greater than in the general population sample (3.6%). These findings confirm reports that hallucinogen use is elevated among the mentally ill, but do not support observations of elevated stimulant use in this population (Mueser et al., 1990; Schneier & Siris, 1987). Interestingly, the prevalence of recent (past month) hallucinogen use by high-school seniors in Boulder, Colorado, is substantially higher, at 10%, than the national prevalence for high-school seniors (2%) (Rocky Mountain Behavioral Science Institute, 1991). Frequent hallucinogen use by the present study sample, therefore, may reflect local market availability and cost. The results of this study support previous findings that mentally ill patients are no more likely to abuse alcohol, sedatives, or narcotics than are others in the general population (Mueser et al., 1990; Schneier & Siris, 1987).

The lifetime prevalence of use of several substances in this sample was great. Nearly 90% of subjects had used marijuana—substantially more than had a national college-age sample (61%) (Johnston et al., 1989). The same is true for hallucinogens (over 60% versus 15% of college-age subjects),

cocaine (49% versus 24%), and other stimulants (51% versus 27%). These lifetime prevalence figures are similar to those reported for Test and associates' (1985) and for Breakey and colleagues' (1974) schizophrenic samples.

This population's decrease in heavy substance use from a lifetime prevalence of 76% to a current rate of 35% is striking. Although drug abuse and, to a lesser extent, alcohol abuse in the general population tend to decrease with age (Myers et al., 1984), it seems an incomplete explanation for the decrease noted here, since severity of substance use was unrelated to age in the sample. Substance use may become less frequent when mental illness is better controlled, and improvements in this sample may be related to provision of intensive case management and daily monitoring of medication, which prevent relapse, or to money management, which restricts the daily allowance and thus reduces the opportunity for patients to purchase large amounts of drugs or alcohol.

### *Family History*

A family history of substance abuse, but not of mental illness, was more common among participants who reported lifetime moderate or heavy substance use. This finding confirms Dixon and colleagues' (1989) observation that a family history of drug abuse (but not of other psychiatric disorders) is a predictor of drug abuse among schizophrenic subjects and suggests that, in part, substance use among the mentally ill may relate to factors that precede the onset of illness.

### *Reasons for Substance Use*

As in Test and co-workers' study (1989), subjects cited social interaction, relief of unpleasant affective states, and boredom as the principal reasons for substance use (see TABLE 3). Another benefit, listed by several subjects as the most significant reason for substance use, was a feeling of improved self-esteem. Although substance use may ap-



pear maladaptive to the clinician, from the patient's perspective there are advantages that apparently outweigh potential hazards.

Subjects who preferred hallucinogens cited "to stay awake" and to "feel better physically" more often than other reasons. These patients may be combatting akinesia, sedation, or other side effects of psychotropic medication, a conclusion that fits the dopaminergic action of the hallucinogens (Bowers, 1987). Subjects who preferred marijuana, on the other hand, used it to reduce anxiety and boredom, reasons that correspond to commonly accepted effects of the drug. These patients may be attempting to treat the effects of marijuana withdrawal or drug-induced amotivational syndrome, or to cope with inactivity. Subjects with little structured daily activity were somewhat more likely to use marijuana and cited boredom as the most significant reason for substance use. This observation indicates that work and activity programs may be helpful in reducing marijuana use among the mentally ill.

#### *Substance Use and Severity of Illness*

In view of earlier reports that substance use is associated with greater severity of psychosis in schizophrenia (Carpenter et al., 1985; Craig et al., 1985; Crowley et al., 1974; Drake & Wallach, 1989; Hekimian & Gershon, 1968; Janowsky & Davis, 1976; Knudson & Vilmar, 1984; Negrete et al., 1986; Safer, 1985; Treffert, 1978), this study finding that heavy substance-users are rated no higher in psychopathology or hospital use is surprising. A possible explanation is the fact that heavy substance use was not associated with medication non-compliance in this sample, in contrast to other research that has found drug users tending to be noncompliant with treatment (Drake & Wallach, 1989). The subjects in this study were drawn from patients enrolled in a community support system in which compliance with treatment is controlled by daily monitoring of medication, enforced, if necessary, by the use of outpa-

tient certification. Thus, the previously noted association between substance use and increased severity of illness may be an indirect consequence of treatment noncompliance among substance users rather than the direct effect of the substance. If so, intensive case management and closely monitored outpatient treatment of mental illness may be effective in reducing the morbidity associated with coexisting mental illness and substance abuse.

#### *Effects of Marijuana*

The lack of an association between heavy substance use and severity of illness is related, in part, to interesting findings concerning marijuana use. Subjects who preferred marijuana (one of the most commonly used substances in this group) had a lower hospitalization rate than those who preferred other substances or no substance. Subjects who preferred marijuana also scored significantly lower on activation symptoms. Mueser (1990) similarly found that psychotic patients with a history of cannabis abuse have fewer hospitalizations and lower activation symptom scores. He argued that, since severely ill patients are less able to obtain the drug, those who can will tend to be higher functioning. Mueser's explanation does not seem applicable to patients in the present study: marijuana appeared to be freely available to lower-functioning patients in Boulder.

An alternate explanation is the fact that marijuana has a useful, calming effect in some mentally ill patients, a possibility supported in some cases by subjects' reports of the effect of the drug. As TABLE 4 indicates, subjects attributed to alcohol and the hallucinogens only modest beneficial effects on symptoms. In contrast, subjects who preferred marijuana reported beneficial effects on depression, anxiety, insomnia, and physical discomfort, while recognizing that the drug did not help with paranoia and hallucinations. It is possible, as Test and associates (1989) suggested, that patients titrate use of the drug to obtain "the most advanta-



geous benefit-to-cost ratio" (p. 471)—that is, they may tailor drug use to achieve maximal impact on affective symptoms, with minimal increase in positive symptoms. It is also feasible that patients who experience the greatest adverse consequences from marijuana use tend to avoid the drug.

#### Limitations of the Study

These substance-use data are largely based on the self-report: this imposes a limitation on the study. Researchers in the addictions field recognize that substance abusers may minimize the quantity of their substance use and the severity of associated problems. To monitor this effect, a report of the subject's current substance use was obtained from the therapist and a confidence rating was applied on the accuracy of both the subject and the therapist report. The similarity found between subject and therapist ratings of substance use suggests that the subjects' reports were reasonably reliable. The possibility that subjects were equally inaccurate in reporting substance use to both researcher and therapist must be taken into account; however, the reliability of the data is improved by the fact that the therapist's report is to some degree based on direct observation.

The data on lifetime use of substances is gathered retrospectively and without corroboration by independent sources: it may, therefore, be less reliable than current substance use data. The lifetime rates of use that were obtained were high, however, suggesting that little minimization of reporting occurred.

A distinct limitation is created by the use of a general population comparison group that does not match the present sample in age or other socioeconomic variables. Prevalence of current substance use in this sample, mean age 38.5 years, was compared with a national sample of young adults aged 19 to 30. However, a higher prevalence of substance use is to be expected in a younger age range; thus, use of this younger general population sample is like-

ly to understate the relative magnitude of substance use in the patient population.

It was possible to contact relatives of only 24 of the 55 interviewed subjects to confirm family history data (largely because subjects did not give consent). This may have decreased the accuracy of reporting of family history for mental illness and substance abuse and is particularly likely to have increased the number of false negatives.

#### CONCLUSION

Lifetime rates of substance use in this sample are very high, but the data on current use are less alarming. The current use of hallucinogens appears greater than in the general population, posing a potential problem for people already at risk for psychotic symptoms, but the current use of most other substances, such as stimulants, is not greater. Heavy substance use, moreover, was not associated with medication non-compliance, increased psychopathology, or more frequent hospitalization.

The relatively low levels of current substance use and its sequelae may be a consequence of the treatment that study participants were receiving. Closely monitoring medication compliance to help stabilize the course of the illness and restricting the patient's access to money may significantly reduce excessive use of substances and its adverse consequences. The association of marijuana use with restricted daily activities and with the subjective experience of boredom suggests, moreover, that work and social activity may decrease the use of this drug among a mentally ill population.

Subjects identified both positive and negative effects of substances, and measures of psychopathology and hospitalization suggest that moderate substance use does not routinely have an adverse effect on the course of the patient's illness. Therapists working with the mentally ill may be able to determine treatment interventions based on the adverse and beneficial effects of different substances a client experiences.

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For example, if a client is using substances to counter depression, anxiety, or side effects from medication, treatment to achieve alleviation through better means might be devised. A broad recommendation by the therapist to avoid all substance use may be clinically inappropriate and may not be viewed as constructive by the client.

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*Substance use among a random sample of mentally ill, community-based patients was examined. Current use was found to have declined substantially from a high lifetime prevalence, and a family history of substance abuse was associated with moderate to heavy use. No association was found between heavy substance use and elevated psychopathology, hospitalization, or medication noncompliance. Hospital admissions and some symptoms were less prevalent among users preferring marijuana.*

Recently termed a "crisis" (Brown et al., 1989), the issue of substance abuse among mentally ill people living in the United States raises a number of questions. How does substance use by the mentally ill compare with that by the general population? What are the reasons? Do specific drugs exert deleterious psychotropic effects or normal effects?

#### LITERATURE REVIEW

##### Prevalence

Lifetime substance abuse rates of 13% to 35% have been determined for various schizophrenic samples (Graham et al., 1989; Cohen & Anis, 1978; Dixon et al., 1989; Safir, 1987)—substantially higher than the general population rate of 17% in the Epidemiologic Catchment Area (ECA) survey (Regier et al., 1990). The ECA study identified a lifetime history of substance abuse in 47% of subjects with schizophrenia and 36% of those with bipolar disorder—prevalence risks exceeded only by those with

antisocial personality disorder (86%) (Regier et al., 1990). Similarly, reported recent substance abuse rates of 29% (Antonson, 1973) and 40% (Safir, 1987) for schizophrenic samples were considerably higher than the six-month general population figure of 15% in the ECA samples (Regier et al., 1990).

Substance use by mentally ill people, however, may be more readily seen as maladaptive and as exacerbating psychological problems and may, consequently, be labeled abuse. In the study by Anis et al. (1989), for example, only the "occasional" mentally ill user failed to receive a substance abuse diagnosis. Reported differences in abuse rates thus may not indicate whether substance use among the mentally ill is greater than among the general population.

Although Brenkey and co-workers (1974) did not find the lifetime substance use rate among schizophrenics (70%) much more frequent than that among nonpsychiatric