Motivation to Quit Using Substances Among Individuals With Schizophrenia: Implications for a Motivation-Based Treatment Model

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Abstract

Although the motivation to quit using substances is an important prognostic and treatment-matching factor in substance abuse treatment, there is limited information on motivation to quit among individuals with schizophrenia. This study used the five-stages-of-change model to evaluate the motivational levels of 497 individuals with schizophrenia or schizoaffective disorder in an outpatient mental health clinic. Rates of substance abuse, motivation levels to quit each specific substance, and correlates to motivational levels were evaluated. At least one substance use disorder was diagnosed in 224 of the subjects (45%); however, there was significant variability among the caseloads of the outpatient division teams. The patients in the triage/acute services and community outreach teams had substance abuse rates of about 70 percent. Most subjects had low motivation to quit substances, and the rates varied according to substance (range of 41% for opiates to 60% for cocaine). Treatment-matching strategies are suggested in the motivation-based treatment model.

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Motivation is an important prognostic and treatment-matching factor in substance abuse treatment (Sterne and Pittman 1965; Karoly 1980; Miller 1985; Ziedonis and Fisher 1996); however, there is limited information about the motivation to quit using substances among individuals with schizophrenia (Ries and Ellingson 1990). Specific dual-diagnosis treatment approaches may be more effective when matched to the needs of the individual patient, including the patient's level of motivation. Low motivation is often the explanation for poor outcomes in treatment, including the lack of engagement in treatment or reduction in substance usage. Substance abuse treatment programs use action-oriented treatment approaches and stress an abstinence model. The less motivated patients in mental health settings often have difficulty engaging in the substance abuse component of dual-diagnosis treatment when clinicians initially use the action-oriented treatment approaches. As in primary medical clinics, patients with substance use problems seek treatment in the mental health treatment setting for non-substance-use problems (i.e., headache or abdominal discomfort) and do not want to quit alcohol use or stop smoking. Patients need to be engaged in substance abuse treatment if it is to be successful.

This study aimed to determine the rates of substance abuse and motivational levels to quit each substance in patients in an outpatient setting of an urban community mental health center. Awareness of a patient's motivational level can help clinicians develop more realistic treatment goals and use appropriate treatment techniques. Knowledge of the rates of motivational levels could also help in treatment service system planning and prioritizing. The motivation-based treatment (MBT) model matches treatment to patients based on their motivational levels.

Previous research has found that the five substances most commonly used by individuals with schizophrenia are caffeine, nicotine, alcohol, marijuana, and cocaine. The Epidemiological Catchment Area (ECA) study reported lifetime substance abuse to be 47 percent (Regier et al. 1990), and clinical settings report current substance abuse in the 25 to 75 percent range (Schneier and Siris 1987; Miller et al. 1994). The highest rates of dual diagnosis are reported in emergency room, triage, inpatient, and outreach teams (Galanter et al. 1988; Dixon et al. 1991; Selzer and Lieberman 1993). Substance abuse has a dramatic impact on the course of schizophrenia (Fischer et al. 1975; Mueser et al. 1990; Sevy et al. 1990; Ziedonis et al. 1994), and undiagnosed and untreated substance

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abuse seems to worsen further the course of the psychiatric illness (Hall et al. 1977; Ananth et al. 1989).

Models of motivation characterize motivation either as a state or as a trait. According to the trait model, clients are responsible for their own level of motivation, and unmotivated clients fail in treatment. If clients do not express motivation, then they are not trying hard enough. Furthermore, the trait model implies that the therapist is insignificant to the treatment process. Rather, treatment relies on the motivation (i.e., distress, compliance, and dependence) of sick and needy clients (Miller 1985).

In contrast, in the state-based model of motivation, motivation is perceived as fluctuating. Individuals shift between motivational stages and can relapse during any stage and return to any motivational stage. Therefore, clinicians must reassess motivation routinely to employ stage-appropriate therapeutic techniques in treatment. In addition, patients may have different levels of motivation to stop each type of substance. For example, some individuals may engage in treatment to stop their cocaine use; however, they do not recognize their alcohol abuse and are not interested in abstaining from this substance. Because of the opportunity for early detection in a mental health clinic, many of these clients are often not yet motivated to quit; they are therefore difficult to engage in treatment and become revolving-door clients.

The rates of motivation to quit using substances have implications for clinical program development and new ways to conceptualize and match psychotherapies and pharmacotherapies. From clinical program evaluations and clinical experience, a set of principles for dual-diagnosis treatment is developing; however, there have been few randomized clinical trials to test their efficacy.

This study evaluated the motivation to quit using substances according to the five-stage model of change of Prochaska and DiClemente (1983). This model characterizes motivation as a state.

Based on the findings in this article, our clinical experience, and the need to help clinicians organize treatment planning, the MBT model was developed. The MBT model encourages clinicians to develop realistic and appropriate treatment goals that consider the severity of the patient's disorder, his or her motivational level, and the type(s) of substance abused. The model also helps organize training of mental health staff about addiction and dual diagnosis as it focuses on the addiction problem and how to integrate substance abuse treatment techniques into mental health treatment. The MBT model has been applied within the Connecticut Mental Health Center (CMHC) and the Mental Health Network of South Central Connecticut (Ziedonis and Fisher 1996).

Methods

Data were collected for this survey study in the Outpatient Division of the CMHC from January through March 1995. During this period, 77 clinicians provided treatment for approximately 1,400 chronic mentally ill outpatients (about 50% with a psychotic disorder) at the CMHC.

The Survey. The survey included information on the client's psychiatric disorders, substance use, motivational level to quit each substance, and involvement in substance abuse or dual-diagnosis treatment. It was limited in that urine toxicology testing was not included in the assessment. In fact, the survey revealed that only 15 percent of all the outpatients had a urine toxicology screen during the previous year. Psychiatric and substance use disorders were determined by the clinician's assessment and chart review using *DSM–III–R* criteria (American Psychiatric Association 1987).

Motivational levels were assessed using the five-stage "readiness to change" scale described by Prochaska and DiClemente (1983). The five stages are precontemplation, contemplation, preparation, action, and maintenance. In the precontemplation stage, the individual is continuing to use the substance, is not interested in discontinuing use during the next 6 months, and denies or minimizes that associated problems are related to substance use. In the contemplation stage, the individual continues to use the substance but recognizes that continued use is a problem and expresses an interest to quit using the substance sometime during the next 6 months. However, he or she is very ambivalent about quitting use of the substance. In the preparation stage, the individual continues to use the substance but is now interested in making a commitment to stop using during the next 30 days and would benefit from developing an action plan. The individual may have even made a random and unsuccessful effort to quit using. In the action stage, the individual is actively attempting to quit using the substance and is ready to participate in treatment. In the maintenance stage, the individual has been abstinent for more than 3 months but less than 5 years, and addiction is still part of his or her identified mental health treatment issues (Prochaska et al. 1992).

A five-question "stage of change algorithm" was used as a guide to determine the individual's motivational stage (Rossi et al. 1993; Prochaska et al. 1994). The algorithm was adapted to assess motivation for quitting each specific substance and not whether there was a commitment to quit all mood-altering substances. The questions in this algorithm include whether clients are currently using a substance, whether they think continued use is a problem,

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what their personal treatment goal is (controlled use, temporary abstinence, or permanent abstinence), and when they plan to quit using the substance (within the next 30 days or 6 months).

The rates of substance use and motivational levels were assessed for 497 individuals with diagnoses of schizophrenia or schizoaffective disorder. The primary mental health clinicians facilitated the collection of the survey information on their own patients. The subjects' demographic data were obtained from the general management information system at the CMHC.

Data Analysis. The major outcome variables in this cross-sectional survey study were the presence of specific substance use disorders (alcohol, cocaine, marijuana, and/or opiate abuse/dependence, including clients in the maintenance stage) and the motivational level for quitting each specific substance (precontemplation, contemplation, preparation, action, and maintenance). Two new variables were created: dual diagnosis and high/low motivational level. A patient with at least one substance use disorder (alcohol, cocaine, marijuana, or opiates) was categorized as having a "dual diagnosis." Patients with low motivation were in the precontemplation and contemplation stages, and those with high motivation were in the stages of preparation, action, and maintenance.

Several descriptive analyses were undertaken to determine substance abuse and motivational level rates. We assessed the association of demographic variables—gender, marital status (married vs. not married), education (high school graduate vs. less than high school graduate), race (white vs. nonwhite), and age—and clinical variables (psychiatric diagnosis, current treatment setting, and current participation in substance use or dual-diagnosis treatment) with the categories of dual diagnosis and high/low motivational level. The dually diagnosed clients were divided into groups of treatment seekers or nontreatment seekers on the basis of their enrollment in any type of substance use treatment. Categorical variables were compared for significant differences by using the chi-square test statistic, and continuous variables were compared using the *t*-test statistic. We performed multiple logistic regression analyses to evaluate the associations between high/low motivation and the demographic and clinical variables.

Subjects. The study included 497 subjects diagnosed with either schizophrenia (63.6%) or schizoaffective disorder (36.4%) at the CMHC Outpatient Clinic. Fifty-one percent were male, 57 percent were white, 94 percent were not married, 60 percent did not graduate from high school, and the mean age was 44 years. These subjects received care in three distinct outpatient settings and teams: triage/acute services, community outreach teams, and continuous treatment outpatient teams.

Results

Substance Use Disorder Rates. In the sample of 497 patients, 224 subjects (45%) were dually diagnosed with at least one substance use disorder. Among the dually diagnosed patients, 79 percent had an alcohol use disorder, 46 percent a cocaine use disorder, 32 percent a marijuana use disorder, and 8 percent an opiate use disorder. Patterns of polysubstance abuse with cocaine, alcohol, and marijuana were determined (see table 1).

As expected, dual-diagnosis rates varied according to treatment setting within the outpatient division. The rates of substance use disorders were higher among clients seeking treatment in the triage/acute services (85%) and the community outreach settings (70%) compared with the continuous treatment outpatient teams (41%). Most patients in the higher-acuity settings of triage and outreach were polydrug abusers. Chi-square analyses revealed that significantly fewer clients receiving continuous treatment abused alcohol, marijuana, cocaine, or opiates (all $p < 0.05$) than clients receiving the higher-acuity services. There were significantly more clients with the combination of alcohol and cocaine addiction in the higher-acuity settings than in the continuous treatment teams ($p < 0.05$; see table 2).

Motivational Levels to Quit Using Substances. Rates of motivational levels varied according to specific sub-

Table 1. Patterns of polysubstance abuse among the dually diagnosed (*n* = 224) patients at the Connecticut Mental Health Center

Type of abuse	*n*	%
Any substance abuse	224	100
Any alcohol	178	79
Any marijuana	71	32
Any cocaine	103	46
Any heroin	17	8
Alcohol only	86	38
Marijuana only	7	3
Cocaine only	30	13
Other substance only	3	1
Alcohol and cocaine	34	15
Cocaine and marijuana	6	3
Marijuana and alcohol	25	11
Alcohol, marijuana, and cocaine	33	15

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Table 2. Substance use by types of treatment (n = 497)

	Triage 4%, n = 20		Outreach 9%, n = 43		Outpatient department 87%, n = 434		Total 100%, n = 497	
	n	(%)	n	(%)	n	(%)	n	(%)
Any substance abuse								
Total	17	(85)	30	(70)	177	(41)	224	(45)
Any alcohol	12	(60)	19	(44)	147	(34)	178[1]	(36)
Any marijuana	5	(25)	11	(26)	55	(13)	71[1]	(14)
Any cocaine	10	(50)	25	(58)	68	(16)	103[1]	(21)
Any heroin	3	(15)	2	(5)	12	(3)	17[1]	(3)
Patterns of substance abuse								
Alcohol only	6	(30)	4	(9)	76	(18)	86	(17)
Marijuana only	1	(5)	0	(0)	6	(1)	7	(1)
Cocaine only	3	(15)	9	(21)	18	(4)	30[1]	(6)
Alcohol and cocaine	3	(18)	6	(20)	25	(6)	34[1]	(7)
Cocaine and marijuana	1	(6)	2	(7)	3	(1)	6[1]	(1)
Marijuana and alcohol	0	(0)	1	(3)	24	(6)	25	(5)
Marijuana, alcohol, and cocaine	3	(15)	8	(19)	22	(5)	33[1]	(7)

Note.—Other substance only (n = 3).

[1] $p < 0.05$.

stances (see table 3), with highest rates reported in the precontemplation and maintenance levels, the two extremes of high and low motivation. In the maintenance level, the client acknowledges the substance abuse problem and reports abstinence for at least 3 months. Abstinence was not verified by toxicology testing. For this study analysis, the motivational levels were categorized as low/high motivational levels, and the majority of patients abusing each type of substance except opiates were in the low-motivation category (see table 4). The percentage of patients at the low-motivational level (precontemplation and contemplation stages) varied according to the substance of abuse: alcohol (48%), cocaine (60%), marijuana (51%), and opiates (41%). Clients with dual-substance use had significantly low motivation to quit using both substances ($p < 0.05$). Of note, nearly twice as many clients with an alcohol use disorder were at the maintenance level than those with a cocaine use disorder.

Sociodemographic Factors. The sociodemographic factors of sex, age, marital status, race, and education level were compared according to dual-diagnosis status (see table 5). Males and nonwhites were more likely to be dually diagnosed than nondually diagnosed ($p < 0.05$).

According to chi-square analyses, there were no significant differences between the high versus low motivation categories according to gender, marital status, or education. However, differences were found according to race and age. Clients older than 40 years of age were less motivated to quit using alcohol ($p < 0.05$) and marijuana ($p < 0.05$) than clients younger than age 40. Nonwhite subjects were significantly less motivated than white clients to quit using marijuana ($p < 0.05$), cocaine ($p < 0.05$), and opiates (Fisher's exact test, $p < 0.05$).

Multivariate logistic regression analyses further assessed the association of low motivation to quit each

Table 3. Levels of motivation to quit using each substance

Motivation stage	Alcohol (n = 178)		Marijuana (n = 71)		Cocaine (n = 103)		Opiates (n = 17)	
	n	(%)	n	(%)	n	(%)	n	(%)
Precontemplation	82	(46)	36	(51)	58	(56)	7	(41)
Contemplation	4	(2)	0	(0)	4	(4)	0	(0)
Preparation	11	(6)	7	(10)	9	(9)	4	(24)
Action	6	(3)	4	(6)	5	(5)	1	(6)
Maintenance	75	(42)	24	(34)	27	(26)	5	(30)

Table 4. Motivational levels for dually diagnosed patients (n = 224)

Substance	High motivation		Low motivation	
	n	(%)	n	(%)
Alcohol (n = 194)	92	(52)	86	(48)
Marijuana (n = 106)	35	(49)	36	(51)
Cocaine (n = 121)	41	(40)	62	(60)
Opiates (n = 17)	10	(59)	7	(41)

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Table 5. Demographics for total sample (n = 497)

Demographic variable	Dually diagnosed (n = 224)	Not dually diagnosed (n = 273)
Male, %	67	38[1]
White, %	43	68[1]
Mean age, yrs	40	47[1]
Unmarried, %	96	91
Mean number of grades completed	12	13[1]

[1] $p < 0.05$.

substance with the predictor demographic and clinical variables. For alcohol, age continued to be a significant factor ($p < 0.05$), but race did not. Male gender was significantly associated with nonwhite race. There were no significant associations in the model for marijuana. Low motivation to quit cocaine use continued to be associated with race ($p < 0.05$; odds ratio of 2.9).

Participation in Substance Abuse/Dual-Diagnosis Treatment. Despite their high level of substance use, only 52 percent of the dually diagnosed patients were enrolled in dual-diagnosis/substance abuse treatment (n = 117). The rate of enrollment of the dually diagnosed (n = 224) clients in the different types of dual-diagnosis/substance abuse treatment were dual-diagnosis group therapy (31%), dual-diagnosis partial hospital programs (6%), individual motivational enhancement therapy (53%), Twelve-Step meetings (15%), and other dual diagnosis treatment (27%).

Nontreatment seekers were significantly older than treatment seekers ($p < 0.05$, see table 6). Treatment seekers and nontreatment seekers also had significantly different patterns of use (see table 7). Clients diagnosed with a cocaine use disorder were more likely to be enrolled in substance abuse treatment than to not be in treatment.

We hypothesized that treatment seekers would be more motivated to quit using substances than those who did not seek treatment. However, chi-square analyses comparing high/low motivation categories and treatment-seeking status disproved our hypothesis. In fact, the high-motivation clients were not enrolled in treatment. A further analysis revealed the reason for this finding: The majority of clients in the maintenance level were not involved in dual-diagnosis treatment. The percentage of the maintenance-level clients in treatment were 36 percent of those with abstinence from alcohol (n = 27), 50 percent from marijuana (n = 12), 41 percent from cocaine (n = 11), and 40 percent from heroin (n = 2). Interestingly, treatment-seeking polydrug abusers were significantly less motivated to quit alcohol use than nontreatment seekers ($p < 0.05$).

Table 6. Demographics for treatment seekers (n = 117) versus nontreatment seekers (n = 107)

Variable	Treatment seekers	Nontreatment seekers
Male, %	71	63
White, %	39	46
Mean age, yrs	37.9	42.2[1]
Unmarried, %	98	93
Mean number of grades completed	11.8	11.7

[1] $p < 0.05$.

Table 7. Patterns of use of treatment seekers (n = 117) versus nontreatment seekers (n = 107)

	Treatment seekers		Nontreatment seekers	
Substance	n	(%)	n	(%)
Any alcohol (n = 178)	90	(51)	88	(49)
Any marijuana (n = 71)	42	(59)	29	(41)
Any cocaine (n = 103)	64	(62)	39	(38)
Alcohol only (n = 86)	38	(44)	48	(56)
Marijuana only (n = 7)	2	(29)	5	(71)
Cocaine only (n = 30)	21	(70)	9[1]	(30)
Other substance only (n = 3)	0	(0)	3	(100)
Alcohol and cocaine (n = 34)	16	(47)	18	(53)
Cocaine and marijuana (n = 6)	4	(67)	2	(33)
Marijuana and alcohol (n = 25)	13	(52)	12	(48)
Marijuana, alcohol, and cocaine (n = 33)	23	(70)	10[1]	(30)

[1] $p < 0.05$.

Discussion

High rates of substance abuse were found in this sample, with 45 percent of the clients having at least one substance use disorder. Polydrug abuse was common. The rates of substance abuse varied according to specific outpatient treatment setting. The higher-acuity settings (triage/acute services and community outreach) had significantly higher rates of substance abuse (75%) than the continuous treatment teams.

Our findings suggest that most clients in a community mental health center outpatient program have low motivation to quit using substances. However, the rate of

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low motivation did vary according to the substance of abuse, the presence of polydrug abuse, and the treatment setting. Compared with clients with alcohol use disorders, clients with cocaine use disorders were more likely to be enrolled in substance abuse/dual-diagnosis treatment, have lower motivation to quit using, and have higher rates of polydrug abuse. These findings may reflect the higher probability of a clinician's identifying cocaine use, associating cocaine use with a cocaine use disorder, and encouraging substance use treatment. In addition, even minor cocaine use may result in serious legal, financial, and psychiatric consequences. Court stipulation for substance use treatment was not determined and may account for the increased involvement of cocaine users in treatment, despite their lower level of motivation to quit using the substance. In addition, clients with an alcohol use disorder were twice as likely to be in the maintenance level as those with a cocaine use disorder.

The triage setting and the outreach teams both attract clients who have a high need for treatment, so the discovery that the clients in these two treatment settings had high substance use rates was expected. Dual-diagnosis clients are a high percentage of the revolving-door clients who present in the higher-acuity settings.

Age and race seem to be significant predictor variables for low motivation to quit using cocaine. Other important clinical or demographic variables, such as socioeconomic status, may negate these significant associations and reveal other potential biases. Severity of psychiatric or substance abuse illness may be an important cofactor. In addition, earlier detection (and therefore low motivation) may be associated with specific patient characteristics.

Future studies should use structured motivational level instruments and urine toxicology assessments to evaluate the motivation to quit using substances in this population. The maintenance level might be further subcategorized according to the duration of abstinence and other quality of recovery characteristics. More research is needed to determine how motivation is best categorized and evaluated for this population. The five-stages-of-change model by Prochaska and DiClemente (1983) was used in this study; however, there has been limited study of these stages or the stage algorithm in dually diagnosed patients. Another simple 5-point scale of current motivation for treatment has been assessed and seems to predict the ability to become abstinent among dually diagnosed patients (Ries and Ellingson 1990).

Future surveys might evaluate clinical clues to assessing motivation, such as the patient's responsiveness to discuss substance use, the balance of the patient's analysis of the positive and negative aspects of continued use, and his or her follow-through on plans and commitments to quit using (Ziedonis and Fisher 1996).

Doing motivational assessments may help clients use self-motivational statements as they gain an awareness of how their use affects themselves and others. Increased psychological awareness may be beneficial to their overall mental health and strengthen their motivation to stop using substances (Trudeau and Reich 1995).

Furthermore, a motivational assessment can help uncover sources of potential external motivation, such as potential imprisonment or an anticipated loss of housing, financial support, employment, family, or marriage. External levers can be helpful in eliciting and maintaining change, increasing internal motivation, and achieving abstinence.

Neuropsychological limitations may be associated with low motivation or the perception of low motivation. Individuals with schizophrenia report difficulty focusing their attention and filtering out distracting and irrelevant details. They also have trouble concentrating on aspects of their environment or communicating with others.

Substance use negatively affects the course of treatment for individuals with schizophrenia, and new ways to evaluate and treat clients must be considered. About 50 percent of the identified clients were engaged in a substance abuse/dual-diagnosis treatment program. Clients in the maintenance stage were less likely to be in a specific substance abuse/dual-diagnosis treatment program than those in other stages. Clinical programs aimed at treating the diversity of individuals in the maintenance level should be evaluated, including peer support interventions. Given the range of motivation to quit using substances among clients, the mental health clinician can benefit from a new perspective on treating the dually diagnosed.

Dual-Diagnosis Treatment Using the MBT Model

The MBT model was developed to help organize treatment planning and develop realistic treatment goals for different motivational levels; for example, lower-motivated clients have harm reduction goals, and higher-motivated clients have abstinence-oriented goals. The MBT model focuses on the addiction problem and how to integrate substance abuse treatment techniques into mental health treatment. It uses the five motivational levels of Prochaska and DiClemente (1983) and matches each level to specific aspects of motivational enhancement therapy, dual-diagnosis relapse prevention, community reinforcement approaches, modified Twelve-Step programs, the use of medication, and other substance abuse or psychiatric

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treatment strategies, including ongoing assessments, urine/breath toxicology monitoring, psychoeducation, social skills training, vocational supports, family therapy, and peer support counseling (Ziedonis and Fisher 1994).

Medications. The client's motivational level influences the choice of pharmacotherapy strategy. Although the fundamental concepts for the management of schizophrenia through medication retain their primacy, improving the client's compliance with the prescribed medication regimen is important. Motivational enhancement therapy strategies may play a useful role in improving medication compliance.

Clients with low motivation benefit from improving their compliance with medication, thereby enhancing the effectiveness of their schizophrenia treatment. Two important choices are depot neuroleptic medication (i.e., haloperidol or fluphenazine) or the atypical antipsychotics (i.e., clozapine or risperidol). Injectable depot neuroleptic medication is an underused intervention that can guarantee medication compliance. It helps reduce the positive symptoms of schizophrenia, increase participation in nonpharmacological interventions, and reduce rates of psychotic relapse and rehospitalization (Glazer and Kane 1992). Haloperidol decanoate has the advantages of lower risk of extrapyramidal side effects and less frequent dosing (every 4 weeks vs. every 2 weeks) compared with fluphenazine.

The atypical antipsychotics may also play an important role in treating the low-motivation dually diagnosed client because they stabilize the schizophrenia more effectively and reduce the negative symptoms, which may have an important etiological or maintenance role in substance abuse. For example, patients may attempt to self-medicate their negative symptoms of schizophrenia through the use of substances. Buckley et al. (1994) found substantial reductions in substance abuse at 6-month followup in the dually diagnosed patients who were switched to clozapine. Similarly, two studies found substantial reductions in nicotine use among schizophrenia patients who switched from traditional neuroleptics to clozapine (George et al. 1995; McEvoy et al. 1995*a*, 1995*b*).

More motivated clients are prescribed medications that specifically target symptoms of substance use disorders, such as those associated with detoxification, craving, protracted abstinence, and withdrawal; in addition, some medications act as agonist maintenance agents. Unfortunately, there have been limited pharmacotherapy trials for the substance-abusing individual with schizophrenia.

Psychosocial Treatments. Most psychosocial treatment approaches focus on engagement in treatment, finding external levers to increase motivation, case management, and blending traditional substance abuse psychotherapy approaches with mental health treatment. The client's recovery and rehabilitation are facilitated by supportive and optimistic clinicians (Davidson et al. 1993; Drake et al. 1993).

The three primary substance abuse treatment approaches that have been integrated into dual-diagnosis treatment are motivational enhancement therapy, relapse prevention (cognitive-behavioral therapy), and Twelve-Step recovery approaches.[1]

Case Management and Outreach Into the Community. Active outreach efforts can help engage the least-motivated clients into treatment. Drake and colleagues (1993) coordinated substance abuse services for dually diagnosed patients through continuous treatment teams. These multidisciplinary outpatient teams served as the primary clinician for a small number of clients and did extensive case management in the community setting. Similar approaches have been described as "assertive community treatment teams" (Knoedler 1979) and "community client protection systems" (Pepper and Ryglewicz 1984). The use of motivational enhancement therapy and the community reinforcement approach is being evaluated in community outreach programs.

Motivational Enhancement Therapy Techniques. Motivational enhancement therapy provides the clinician with specific guidelines and treatment approaches that can target specific motivational levels. Motivational enhancement therapy attempts to build a client's motivation for change and strengthen their commitment to change. The clinician uses an empathic approach that encourages the client's responsibility and capability to change his or her behavior. Therapy is a partnership. Client characteristics that influence engagement into treatment are the level of self-esteem, locus of control, and severity of need for treatment. Therapist characteristics that influence the therapeutic relationship are the level of hostility, expectancy, and empathy (Miller 1985; Miller and Rollnick 1991; Miller et al. 1992).

The treatment goals for low-motivation clients in the precontemplation stage is to increase their awareness of the impact of their substance use and of the possibility of stopping their use. Clients may benefit from receiving

[1]These approaches are described in detail in the National Institute on Alcoholism and Alcohol Abuse Project MATCH *Motivational Enhancement Therapy* manuals that are available free of charge from the National Clearinghouse on Alcohol and Drug Information (NCADI, 1-800-729-6686).

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information and feedback related to their substance abuse. The clinician must be open and nonjudgmental while still being realistic and honest. Encouraging clients when they make self-motivational statements is an important motivational enhancement therapy technique. Clinicians are encouraged to refrain from providing advice, making interpretations, or doing immediate problem solving. Providing feedback on information learned through the assessment process or in a therapy session at the end of the session can be an effectively timed strategy.

In the contemplation level, a useful motivational enhancement therapy technique is to do a "decisional balance" of the pros and cons of continued substance use and cessation of use. The client discusses his or her ambivalence about quitting, and the therapist helps tip the balance toward entering treatment and becoming abstinent. The clinician affirms that change is difficult for everyone, and uses followup letters and phone calls in the engagement process.

The goal in the preparation stage is to develop a change plan that is acceptable, accessible, appropriate, and effective. In the MBT model, the preparation stage signals the clinician to shift emphasis from motivational enhancement therapy to dual-diagnosis relapse prevention strategies.

Community Reinforcement Approach. A client's level of participation in treatment is influenced by both internal motivation and external motivators, such as the legal system, work, family, or control of financial resources. The use of these levers can facilitate a patient's entry into and participation in treatment. The community reinforcement approach is based on behavioral therapy principles of contingencies, and links urine testing and other outcomes to consequences or rewards (often a voucher system). This behavioral approach uses external levers to change behavior and increase internal motivation. The management of disability income provides a real-world mechanism to use the community reinforcement approach. This approach can include lifestyle counseling that focuses on recreational and educational needs and social skills/assertiveness training (Sisson and Azrin 1989).

Action-Oriented Therapy: Dual-Diagnosis Relapse Prevention. The client in the action stage is attempting to quit using the substance. In the early action phase, the goal is to stay abstinent and focus on current problems. Motivation and commitment to change often increase with increased self-efficacy, which results from changing of behaviors and being able to better manage or avoid triggers to use. Dual-diagnosis relapse prevention is a hybrid behavioral therapy approach that integrates and modifies substance abuse relapse prevention therapy and psychiatric social skills training. The social skills training focuses on problem-solving and communication skills, management of psychiatric symptoms, and medication compliance. Dual-diagnosis relapse prevention uses the behavioral learning principles of role playing, modeling, coaching, presenting positive and negative feedback, and assigning homework. Role playing helps address cognitive and social skills deficits.

The content of dual-diagnosis relapse prevention therapy sessions alternates between an emphasis on substance abuse and an emphasis on psychiatric problems and considers how each problem can affect the other. Ongoing assessment of psychiatric and substance abuse status may open a window of opportunity to reinforce the patient's awareness of the link among substance use, medication compliance, and psychiatric symptoms. Clients identify triggers and early warning signs of abuse and develop both general coping strategies and specific skills to prevent relapse and improve everyday functioning. Traditional substance abuse relapse prevention therapy is modified to address deficits in attention span, abstraction, and social skills of individuals with schizophrenia (Ziedonis 1992; Ziedonis and Fisher 1994).

Maintenance Stage and Recovery Approaches. Making the transition from action to maintenance and then improving core areas of one's life can be difficult. For the nondually diagnosed substance abuser, the maintenance stage has been labeled "Stage II Recovery" (Larsen 1985). The focus is on developing a recovery plan to address a broad range of issues, especially limiting dysfunctional relationships and increasing healthy relationships. Clients attempt to pursue alternative highs, including employment, better relationships with significant others, and other social outlets with nonusers. This pursuit can be more difficult for the individual with schizophrenia.

Participation in Twelve-Step recovery programs (Alcoholics Anonymous, Alanon, etc.) is usually an important aspect of treatment for the nondually diagnosed substance abusers and provides clients a map through the higher motivational stages. Unfortunately, clinical experience in referring individuals with schizophrenia to Twelve-Step programs has been mixed. The most effective use of such programs seems to occur when the meetings are held within a mental health setting or a community setting that is open and receptive to individuals with a mental illness. Integrating Twelve-Step principles and lingo into dual-diagnosis treatment can be helpful, and several attempts at modifying those principles for this population have been suggested (Evans and Sullivan 1990; Hazelden Foundation 1993).

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Conclusions

Treatment of the dually diagnosed individuals with schizophrenia is most likely to occur in mental health settings. Clinical programs seem to have better outcomes when both the substance abuse and schizophrenia problems are addressed simultaneously, and when they provide broad-based and comprehensive services. Treatment studies should include the assessment of motivational levels and consider changes in motivational levels as a primary outcome measure. Future research will determine the effectiveness of the motivation-based treatment model and of specific interventions such as motivational enhancement therapy in reducing the length of time a client takes to move from denial to extended abstinence.

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