

REVIEW

Psychosocial Treatments for People with Co-occurring Severe Mental Illnesses and Substance Use Disorders (Dual Diagnosis): A Review of Empirical Evidence

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Considerable research documents the health consequences of psychosis and co-occurring substance use disorders. Results of randomized controlled trials assessing the effectiveness of psychosocial interventions for persons with dual diagnoses are equivocal but encouraging. Many studies are hampered by small, heterogeneous samples, high attrition rates, short follow-up periods, and unclear description of treatment components. The treatments available for this group of patients (which can be tailored to individual needs) include motivational interviewing, cognitive-behavioral therapy, contingency management, relapse prevention, case management, and skills training. Regardless of whether services follow integrated or parallel models, they should be well coordinated, take a team approach, be multidisciplinary, have specialist-trained personnel (including 24-hour access), include a range of program types, and provide for long-term follow-up. Interventions for substance reduction may need to be further developed and adapted for people with serious mental illnesses. Further quality trials in this area will contribute to the growing body of data of effective interventions. (HARV REV PSYCHIATRY 2009;17:24–34.)

Keywords: cognitive-behavioral therapy, contingency management, dual diagnosis, motivational interviewing, severe mental illness, social-skills training, substance misuse

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INTRODUCTION

The range of expression of dual diagnoses is remarkably diverse, due to the large number of possible combinations of each mental illness on Axes I and II of the current *Diagnostic and Statistical Manual of Mental Disorders* plus all of the substance use disorders. By and large, four categories of people are likely to require a combination of mental health and substance abuse services:^{1–3} (1) those who are severely disabled by comorbid mental health and substance use disorders, who will need a coordinated and integrated approach by both mental health and drug and alcohol services, (2) those who are severely disabled by mental health disorders and adversely affected by problematic substance use disorders, who will be treated primarily by mental health services, (3) those who are disabled by substance use disorders and adversely affected by mental health problems, who will be treated primarily by drug and alcohol services, and (4) those who are

mildly disabled by dual diagnoses, who will be treated primarily by a general practitioner but may also require access to either mental health or substance abuse services at various times.

This review is mainly focused on patients with diagnosed serious (and persistent) mental illnesses, including schizophrenia, psychotic illness, bipolar disorder, and major depression, and co-occurring substance use disorders, especially with drugs in common use, such as alcohol and cannabis. The terms *dual diagnosis* and *co-occurring disorders* are used interchangeably. The literature informing this article was identified through (1) electronic searches of CINAHL, MEDLINE, PsycINFO, and PubMed of English articles from 1976 to present using MeSH terms and various combinations of the following keywords: dual diagnosis, comorbidity, schizophrenia, bipolar, depression, severe mental illness, randomized control trial, drug or substance use, alcoholism, motivational, CBT, program, and services; (2) literature acquired during a Cochrane review on psychosocial interventions for people with both severe mental illnesses and substance misuse;^{4,5} and (3) examination of reference lists, including several recent reviews on this topic,^{6–13} to identify any additional relevant articles. Key themes were distilled from the retrieved articles above, and an inclusive approach was used to review empirical treatment studies involving patients with serious mental illnesses and substance misuse.

Estimates of current substance abuse and lifetime prevalence in mental health settings vary because of variations in where the samples were located, in the use of inclusive versus narrow diagnostic criteria, in assessment protocols, and in the accuracy of records. The largest prevalence study is the Epidemiologic Catchment Area (ECA) study, which involved over 20,000 structured interviews.¹⁴ The ECA study revealed that 37% of people with alcohol disorders and 53% with other drug disorders have comorbid psychiatric conditions. People with a diagnosis of schizophrenia were three times more likely to be alcohol abusers and six times more likely to abuse other substances than those without schizophrenia,¹⁴ and 47% had a substance abuse or dependence disorder.¹⁵ Cannabis use by people with comorbid psychiatric conditions was estimated to be around 50% in the ECA study.¹⁴ Subsequent studies in the United States, United Kingdom, Western Europe, Oceania, and most other countries have estimated that about 20% of young people without comorbidity report weekly or heavy use.^{16,17} Rates of cigarette smoking among people with schizophrenia are between 70 and 88%, with 40% smoking more than 40 cigarettes a day.¹⁸ The overall health consequences of smoking are often ignored in dual-diagnosis discussions despite the high rates of mortality linked to smoking in people with schizophrenia compared to the general population.^{19,20}

Correlates and Consequences of Living with Dual Diagnoses

In general, people with psychosis and substance use disorders are more likely to be male, have a family history of substance abuse, and be younger than their non-substance abusing counterparts, with the possible exception of alcohol abusers.²¹ Considerable research documents the negative consequences for those with dual diagnoses. These consequences include increased rates of treatment noncompliance, relapse, distorted perception and cognition, suicidal ideation, social exclusion, homelessness, aggression, injury, HIV, hepatitis, and cardiovascular, liver, and gastrointestinal disease.^{6,21–31}

A common factor contributing to the refusal or avoidance of treatment by dual-diagnosis clients is their low motivation to reduce substance use.⁶ As a result, their mental health is especially vulnerable, for their substance disorder may destabilize their illness, undermine treatment adherence, and contribute to psychosocial instability.³² The mixture of psychosis, strong emotions, and the continuing resort to alcohol and other readily available substances will exacerbate social alienation and increase the potential for violent lashing out. Furthermore, friends and family who live with, care for, or otherwise remain in contact with people having dual diagnoses will also experience distress, tension, and conflict within these relationships.³³ Interpersonal conflicts are often associated with dual diagnoses, and friends and families may be frustrated with ongoing substance misuse that the users themselves may not see as problematic.⁶

Reasons for Substance Abuse Among People with a Psychosis

According to Gregg and colleagues,²¹ there are four general explanations for the high rates of substance abuse among people with schizophrenia. These are that (1) substance abuse causes schizophrenia, (2) substance use is an attempt, by self-medication, to ameliorate experiences intrinsic to schizophrenia, (3) schizophrenia and substance abuse have etiological factors in common, and (4) schizophrenia and substance abuse maintain each other. With regard to the first explanation, cannabis is the only substance so far to have shown a strong association between substance abuse (in particular, early heavy use) and the development of schizophrenia. In one prospective study of cannabis use among adolescents, the psychotic outcomes remained significant when all other drugs were taken into account.³⁴ The groundbreaking Swedish study following up 45,000 army conscripts for 15 years found that those who had used cannabis at least 50 times at the point of recruitment were six times more likely to have a follow-up diagnosis of

schizophrenia.³⁵ A New Zealand study followed more than 1000 individuals from birth, which found at follow-ups between the ages of 16 and 25 that daily users of cannabis exhibited psychotic symptoms at rates between two and three times those of nonusers.³⁶ A recent systematic review of 35 studies showed an increased risk of psychotic outcomes in individuals who had ever used cannabis, with more frequent use being associated with higher risk.¹⁶ However, even significant correlations do not constitute a cause-effect relationship. Most people who smoke cannabis do not develop a psychotic illness, and in countries with a notable increase in cannabis use in recent decades, no concomitant increase in rates of schizophrenia has been found.

Regarding the second hypothesis, Gregg and fellow researchers²¹ summarized 11 research projects that explored reasons people with a psychotic diagnosis use substances. Eight of the 11 studies included inpatients with a generic psychotic diagnosis, schizoaffective disorder, or bipolar disorder—conditions that frequently include mood alterations. Depression relief is a commonly proposed reason for substance use, so these mood alterations may confound any apparent cause-and-effect relationships. When the 2 studies with 40 or more people with a diagnosis of schizophrenia only are considered, more than 80% of participants declared their reasons for using alcohol and cannabis were to relieve depression, anxiety, or boredom, or to relax. The next most common reason related to socializing. Around 58% gave this as the reason for using alcohol, and 56% to 71% for using cannabis.^{18,37} Technically, such use is not self-medication in that depression and difficulties with socializing are not deemed to be criteria for a diagnosis of schizophrenia. Other research into young people predisposed to psychosis also refutes the self-medication hypothesis.³⁴

These reasons for using substances are not unfamiliar.³⁸ Barrowclough and colleagues concluded that substance use among people diagnosed with psychosis appeared to be associated with the same demographic correlates as for the general population rather than with the patient's symptomatology.⁶ As with the rest of society, alcohol and cannabis, as the most accessible drugs, are the most commonly used and abused in most Western countries. Along with others, people with a psychotic diagnosis may have poorly developed problem-solving skills and have limited resources to gain an improved sense of well-being, with the consequence that they resort to using readily available, cheap, and not unduly stigmatizing substances.^{6,13}

In relation to the third potential explanation for the high rates of substance abuse among people with schizophrenia, there is no evidence that substance abuse and psychoses have a common genetic basis. However, the emotional, social, and biological sequelae of early childhood trauma may constitute an increased vulnerability to both conditions. Research shows that people who undergo physical or sexual

abuse in childhood are more prone to subsequent substance abuse,^{15,39} and as many as 80% of women seeking assistance for substance use disorders report sexual and physical assaults.⁴⁰ Briere and colleagues⁴¹ have shown that, for some, childhood abuse increases their risk of developing a psychosis later, and women with dual diagnoses often have a trauma history both as children and as adults.^{42–44} Furthermore, Scheller-Gilkey,⁴⁴ when comparing patients with dual diagnoses to people with schizophrenia and no substance abuse, found the former cohort had greater scores on a posttraumatic stress disorder scale as well as higher direct measures of childhood trauma. Often there are emotional and social consequences of experiencing assault, of emotional neglect during childhood, or of witnessing violence against a parent that increase people's vulnerability to both psychoses and substance abuse.⁴³

Finally, related to the last hypothesis, it is highly likely that there is synergism between cannabis use and a predisposition to psychosis, and the vulnerability may be especially great during puberty.^{21,34} In addition, mental illness and substance abuse may interact in ways that maintain and exacerbate each other.¹³ As with other substance abusers, people who live with a psychosis may have unrealistic, strongly held beliefs about the usefulness of drugs such as alcohol and cannabis. People with schizophrenia commonly have low self-esteem along with poorly developed coping skills, and under these circumstances emotional, social, or symptom-related cues can provoke recourse to available substances.²¹

Treatment Issues Regarding People with Dual Diagnoses

In comparison to those with substance abuse only, people with psychosis and co-occurring substance use disorders frequently have less motivation to change, are harder to engage, drop out of long-term programs more easily, and make slow progress.^{6,9,11,21} Furthermore, basic factors such as housing often need to be addressed concomitantly, and rehabilitation for subsequent employment is also central to some people's recoveries.¹¹ Relationships may be a key difficulty for some clients, with the consequence that improved communication, problem-solving, and negotiation skills are crucial.⁹ Likewise, if involved family members or partners improve their understanding, communication, and attitudes, they can increase their ability to be supportive.

The features of psychosis may inhibit progress in any treatment phase. Positive symptoms such as delusions, auditory hallucinations, concrete thinking, or inferential thinking create barriers, as can negative symptoms such as flat affect, low energy levels, decreased goal-directed activity, and a limited range of emotional expressivity.⁴⁵ Clinicians have observed that people with schizophrenia have a low tolerance of stressors. Furthermore, in both

substance-abusing populations and those with serious mental illnesses, many persons have a narrow repertoire of coping skills, some of which are not helpful even in the short term. These clients frequently develop idiosyncratic avoidance methods in an effort to manage positive symptoms (mostly delusions and hallucinations), and these methods may become habitual and generalized.²¹

The most widely used model for motivation in the population with substance use disorders was developed by Prochaska and DiClemente⁴⁶ and includes the following five stages of readiness to change: precontemplation, contemplation, preparation, action, and maintenance. Bellack and DiClemente⁴⁷ outline a treatment protocol for people with schizophrenia who abuse substances, acknowledging that “behavioral change is a longitudinal process consisting of several stages.” They articulate three specific aspects of schizophrenia that constitute barriers to making significant personal changes: lack of motivation, impaired cognition, and social-skills limitations. Low motivation, energy levels, and mood, which are common within this client group, may arise from medication, the illness, or constrained life circumstances. They provide obvious challenges for engagement, goal setting, and therapy continuance. Various deficits—in attention, concentration, and abstract thinking—and also thought blocking can impede information processing, problem solving, and realistic planning. Underdeveloped social-interaction skills necessary for meeting people and maintaining relationships can result in the absence of a healthy social-support system to sustain patients through change processes, as well as in difficulties resisting pressure from substance-using peers to continue substance use.

All of these are foundational factors have to be constructively addressed for therapeutic effectiveness. Services also have to meet the actual needs of consumers and caregivers and to focus on relevant outcomes, not merely on the number of contacts or on simple symptom reduction.

A series of individual and group psychosocial treatment approaches will now be reviewed, including consideration of the above barriers, emerging evidence, and treatment trends.

PSYCHOSOCIAL INTERVENTIONS FOR DUAL DIAGNOSES

Individual Approaches

Motivational interviewing (MI) is considered essential in the early stages of working with the dually diagnosed.^{6,13} Such an approach acknowledges that individuals may not be aware that their substance use is causing problems for themselves and others. They may not consider that they have a problem; even if they do, decreasing or stopping use may not be on their agendas. Accessing treatment is not

tantamount to being motivated and activated to manage their own problems with living. Hence, people living with schizophrenia and substance use disorders require assistance to move from the stage of pre-contemplation to that of contemplating of change. MI emphasizes personal choice, responsibility, and awareness of the risks and benefits of continued substance use.¹³ This stance may be confronting for some therapists, who may expect to have a positive impact because of their own efforts, rather than those of the client.

During the MI phase of treatment, Barrowclough and colleagues⁶ draw on the individual’s strengths and aim to assist clients making links between life goals and problems related to substance use. A written treatment plan with clear goals may then be developed. The process, which continues with active engagement around actual client concerns, includes informational components in addition to constructive feedback. The counselor also supportively explores the specific forces within patients that encourage or impede their interest in, and ability to, change. That is, their ambivalence toward substance use is fleshed out and challenged.

In their review of MI outcomes research, Drake and co-authors⁹ note that many projects utilize only one or two sessions, and given the inherent difficulties with this clientele, it is not surprising that the results are not impressive. Two randomized, controlled trials have found some reduction in substance use after three hours of MI. Kavanagh and colleagues⁴⁸ spread those three hours over six to nine sessions and found that substance abuse reduction was maintained a year later. Likewise, Graeber and colleagues⁴⁹ utilized three one-hour sessions and found more patients abstinent from alcohol at six months. The sessions aimed both to develop coping strategies to avoid specific situations at high risk for substance use, and to build on alternative constructive, non-substance-related activities. Such in-depth, reality-oriented interventions are more likely to come to grips with the engagement and motivational issues that challenge dually diagnosed clients and that they need to address.

Along with the use of MI at the outset of treatment, many teams use cognitive-behavioral therapy (CBT).⁵⁰ Barrowclough and colleagues⁶ drew on CBT in early phases. They outlined six issues that individuals with dual diagnoses must address: recognizing escalating symptoms and other warning signs; coping with cravings; coming up with healthy alternative activities; normalizing substance-use lapses; developing plans for lapse or relapse; and cognitive restructuring to counteract positive beliefs about substance use.⁶ Bellack and colleagues⁵¹ randomly assigned patients to either an active treatment arm (comprising six months of group therapy with a CBT approach delivered every two weeks, along with three sessions of MI delivered every two

months combined with contingency management) or to standard care (comprising six months of supportive group therapy). More patients in the treatment arm had drug-free urine and higher retention rates than control subjects. Examples of contingency-management interventions are adjusting the type or frequency of Social Security payments⁵² or offering employment incentives⁵³ or payment for clean urine samples.⁵¹

Family support for people with co-occurring mental illnesses and substance use disorders may enhance both individual and group treatment approaches. When an in situ family member or friend provides practical or financial support while a dually diagnosed person is in formal treatment (e.g., case management or assertive community treatment with enhanced substance use treatment services), substance use can be reduced or eliminated.⁵⁴ Family or friends who remain involved with these clients are a knowledgeable and responsive resource that can have a significant impact on clinical outcomes and recovery.⁵⁵

Group Interventions

Mueser and colleagues¹¹ identify two advantages of using group interactions for populations with co-occurring psychosis and substance abuse: they have the potential to change social attitudes and behaviors (Alcoholics Anonymous has a long history in this regard), and they are generally cost-effective.

For decades, structured behavioral and social-skills training have been utilized in rehabilitating people with long-term mental illnesses in attempts to overcome some of their difficulties with concentration and learning.⁵⁶ At the micro-level, programs encourage participants to explore thoughts and expectations that are a help or a hindrance, as well as to address interpersonal stressors and supports. Such programs aim to improve conversational skills and social functioning, and to develop problem-solving skills⁵⁷ (e.g., overcoming practical problems with self-care, money management, shopping, cooking, and employment readiness).

Substance abusers have to learn to recognize high-risk situations (such as carrying money, and proximity to easy drug-access locations and people), and to participate in role play to develop personalized ways of avoiding or extricating themselves from those situations.¹³ Realistic relapse-prevention approaches have to be tailored to each participant's abilities and style. Such behavioral and social-skills training is most effective when a staged approach addresses issues associated with the actual motivation level of each participant.¹¹

Specifically targeted self-help groups, such as Dual Recovery Anonymous or Double Trouble in Recovery,⁵⁸ often play an important and meaningful role in the lives of people

with dual diagnoses. These groups offer essential social support that comes from others who fully understand the difficulties of remaining sober, and they provide a structure for daily living, along with a commitment to stopping substance use.^{11,13} Research reveals that clients who consistently attend these self-help groups for a year or more achieve reduced substance use outcomes.¹¹ The traditional 12-step programs on which these programs are based are unhelpful for the people with dual diagnoses; the limitations of social and emotional expression among many people with schizophrenia do not fit with the Alcoholics Anonymous custom of talking about intimate aspects of oneself in a group.¹³

Assertive community treatment (ACT) is described as a structured health care service approach to working with dual-diagnosis clients—in particular, by adapting a conventional model of case management to the needs of this client cohort.¹¹ The usual case-manager responsibilities are to develop a working alliance with clients, link them into relevant other services, and function as their advocate vis-a-vis these services and other health professionals.¹³ By keeping contact and providing ongoing assessment, case managers are central to client engagement, treatment, and retention.

Drake and colleagues⁵⁹ compared outcomes (in a New Hampshire study) of standard outpatient case management ($n = 109$) with a staff-client ratio of 1:30 against an ACT cohort ($n = 114$) with a staff-client ratio of 1:10. Their comprehensive ACT included adherence to the essential components of a community locus, assertive engagement, intensive outreach, 24-hour availability, staff continuity, a multidisciplinary team, and close work with support systems.⁶⁰ Over a three-year period, they found that the ACT clients achieved better outcomes with regard to substance use and quality of life, but that the groups were equivalent on all other measures.⁵⁹ In a later study, however, the same team concluded that ACT is superior to standard case management in preventing hospitalization, but only when the base rate of hospital use is high.⁶¹

Residential programs address challenges posed by some dually diagnosed clients and offer intense, integrated treatment during the live-in stage. Many short-term (up to three months) programs, however—even when the homeless, incarcerated, and veterans are excluded—do not achieve better outcomes than usual outpatient services.⁹ Results of some long-term programs (a year or more) at six months postdischarge reveal much better abstinence, accommodation, and other positive outcomes.⁶²

Another set of researchers⁶³ compared three interventions for homeless people with mental illnesses and co-occurring substance use disorders: treatment provided through a moderately intense, residential therapeutic community; a less intense version of same; and outpatient treatment as usual—all for one year. Outcome measures included drug use, crime, HIV risk, psychological symptoms, and

employment. Those who completed either of the residential programs had significantly better long-term outcomes in all domains in comparison to treatment as usual. Interestingly, the low-intensity treatment group had better outcomes at one- and two-year follow-ups. Characteristics of the lower-intensity program that may have contributed to this comparative success include a greater freedom to leave the facility, daily attendance at a community-based treatment program for reducing substance use in mentally ill chemical-abuser clients, less responsibility of peers for each other, more direct staff involvement with clients, and shorter, less-intense therapy sessions.⁶³ The increased flexibility, greater individual attention, and decreased therapeutic intensity would be experienced as more supportive and relevant, and less demanding or overwhelming, thus creating higher program retention rates—which may then result in reduced substance use. As an example, Sullivan and colleagues⁶⁴ conducted a 12-month, randomized, controlled trial assessing a low-intensity, dual-diagnosis, therapeutic community treatment program in male inmates and reported decreased substance use 12 months postrelease compared to subjects receiving standard care.

Making significant life changes is, broadly, the single most important demand on people with co-occurring serious mental illnesses and substance use disorders. Housing and employment are key issues. Gaining ongoing accommodation and achieving useful daily occupation and an adequate income are the most obvious normative achievements that a person in our society can make. Programs oriented towards improving social and vocational skills are central to these possibilities. At present, no experimental evidence shows unequivocally that supported employment in its own right improves substance abuse outcomes.¹¹ Nevertheless, it is plausible that gaining pre-vocational skills would increase work readiness, and it has been found that long-term outcomes are steadily improved by jobs that provide multiple positive reinforcements that support people's ability to decrease or cease substance use.⁶⁵

Treatment Principles

From the abundant research published in the last decade, Drake and colleagues⁹ outlined ten principles that are essential for effective treatment, including: engagement strategies, motivational counseling, stage-wise interventions, active treatment, long-term program retention, integrated mental illness and substance abuse treatments, and relapse-prevention strategies. Further comprehensive services, such as peer support, family education and interventions, liaison with the criminal justice system, housing, and vocational rehabilitation, should also be available, along with specialized programs for those with more complex disorders, cognitive impairment, and treatment resistance, as

well as for minority groups.⁹ In addition, services need to be flexible in order to cater to actual consumer needs, given their real-life circumstances.

Since psychosis and substance use often begin in youth, tailoring programs to young people is important. In a study of first-episode psychosis (average age, 24 years), Pencer and Addington²⁸ found that 37% abused cannabis in combination with alcohol, 35% abused cannabis, and 32% abused alcohol. A study on first-episode schizophrenia revealed that 40% used alcohol excessively and that 35% used other substances in the previous month.⁶⁶ This association between youth and illegal substance use parallels that of the general population.⁶⁷ Edwards and colleagues⁶⁸ found both cannabis-focused interventions and psychoeducation significantly reduced cannabis use in a small cohort of people (average age, 21 years) with a first psychotic episode. More than half of their participants were initially at the "action" phase of change, which increased to 66% six months later. Hence, there is likely to be a "window of opportunity" for effective prevention or reduction of drug use shortly after a first psychotic episode.^{68,69}

RESEARCH EVIDENCE FOR TREATMENT EFFICACY

Tiet and Mausbach¹² reviewed both the psychosocial and medication treatments for those with dual diagnoses and noted that there were few replication studies for the various interventions. They were able to summarize four trends from their review of 59 studies: effective psychiatric treatments also work for those with dual diagnoses; treatments effective in reducing substance abuse work for the dually diagnosed; cognitive-behavioral therapy (CBT) combined with motivational interviewing can benefit people with schizophrenia and substance use disorders; and women with substance use disorders, posttraumatic stress disorder, and depression can benefit from trauma-informed CBT approaches.¹²

These authors¹² reviewed four studies of people with schizophrenia and substance-related disorders.^{55,70–73} All studies had a small sample (<35), 3 were comparatively short-term (eight months or less),^{71–73} 2 did not have a control group,^{71,73} and one lengthy study did not measure psychiatric outcomes.⁷¹ The most rigorous trial involved 29 sessions of CBT and MI over 9 months, with subsequent follow-up assessments at intervention completion (9 months), one year later, and again at 18 months postintervention.^{55,70} In that trial (with 18 patients in the experimental group), Haddock and colleagues⁵⁵ found significant improvements in psychiatric well-being on the DSM-IV Global Assessment Functioning scale and fewer negative symptoms in comparison to routine care. No

significant differences were found between the control and experimental groups with regard to days of abstinence.⁵⁵

Tiet and Mausbach¹² identified seven treatment studies of people with severe mental illnesses—schizophrenia, bipolar disorder, major depressive disorder, or schizoaffective disorder—and comorbid substance use disorders. Four lasted a year or more.^{57,59,74,75} Of those, one had less than 30 subjects in each treatment group,⁷⁵ and three^{59,74,75} had no significant psychiatric improvements. Jerrell and Ridgely⁵⁷ found that behavioral interventions and social-skills training produced significantly better psychosocial functioning and less psychiatric symptoms over 18 months in comparison to Alcoholics Anonymous. This result is not surprising in view of the latter's emphasis on self-awareness, being verbally articulate, and peer confrontation. The behavioral skills treatment group also had more positive and significant outcomes in comparison to a case-management cohort.

For dually diagnosed people with bipolar disorder, Tiet and Mausbach¹² reviewed nine studies, two of which involved psychosocial interventions.^{76,77} In the first study, with 21 young people in the experimental group, the intervention group received 12 to 20 weekly, hour-long, CBT group sessions after discharge from hospital that focused on motivational issues and the development of strategies to deal with high-risk situations.⁷⁶ Significant improvements were reported for drug and alcohol abstinence in this group six months later compared to patients who did not receive further treatment after discharge. The group therapy subjects also had significantly greater improvement in manic symptoms and drug outcomes than in depressive symptoms and alcohol use.⁷⁶ In the other study, 25 subjects in the experimental group received 16 individual CBT sessions plus medication monitoring.⁷⁷ The researchers reported that the experimental group had fewer days of manic symptoms after three months of treatment than the control group.

Tiet and Mausbach¹² reviewed 21 studies involving patients with comorbid depressive disorders, 15 of which focused on individuals with alcohol-related disorders and 6 on individuals with any substance-related disorder. Nineteen, or 90%, of those studies involved treatment with medication (e.g., tricyclic antidepressants and selective serotonin reuptake inhibitors), and the 2 remaining studies involved non-randomized psychosocial interventions.^{78,79} One of those two studies reported improvements in both mental health and substance use over six months of integrated intervention in the depressed group ($n = 43$) compared to the nondepressed group ($n = 77$).⁷⁹ When the sample was divided into three groups—nondepressed, primary depression ($n = 26$), and substance-induced depression ($n = 17$)—no differences were found in any of the key addiction outcome measures between groups. The second study compared CBT for depression to relaxation training in 35 patients who were seeking treatment for alcohol dependence and had baseline Beck Depres-

sion Inventory scores of nine or more.⁷⁸ The researchers reported better alcohol-use outcomes and reduced depressive symptoms over three to six months in participants receiving CBT. Because of the lack of a control group receiving standard care⁷⁹ and the limited sample size,⁷⁸ however, these two studies are not helpful indicators of long-term outcomes for patients with depression.

In a sober summary of their treatment review, Tiet and Mausbach¹² concluded that “few interventions have shown meaningful improvement in both substance and psychiatric outcomes, regardless of the kind of comorbid diagnoses.” They also noted that there is only weak evidence to support the commonly held view that integrated treatment inevitably has superior outcomes.^{8,61} Finally, Tiet and Mausbach¹² suggested that the total amount of active services that a person with a dual diagnosis actually needs and receives may contribute to superior outcomes. Such an outcome would not be surprising in that the person would have ongoing contact with a diversity of groups and active individuals who have an interest in him or her, provide ongoing assessment, and respond to changes in needs.

POTENTIAL TREATMENT MODELS

There are three broad service models—the sequential, parallel, and integrated—that are intended for people with co-occurring serious mental illnesses and substance use disorders. Sequential treatment means that the person is treated for one condition, then the other, whereas the parallel model involves treatment for both disorders at the same time, though the service providers work in isolation from each other. These two models are problematic because health providers commonly fail to address cross-service participation and planning.

Integrated treatment targets both conditions simultaneously—but through either the coordinated interaction between service providers or their working together as one team within an inclusive setting.⁹ In general, integrated treatment involves a flexible combination of treatments from the mental health and addiction fields that are blended to cater to the needs of people with dual diagnoses.³¹ In the main, integrated programs require mental health staff to coordinate a range of approaches, such as detoxification, medication management, CBT, and MI—which is often problematic due to limited resources and the absence of well-defined guidelines.

Ziedonis and colleagues³¹ produced consensus recommendations for treating people with co-occurring schizophrenia and substance use disorders. This comprehensive document covered three broad areas: screening, assessment, and planning; psychosocial and pharmacological treatment; and systems of service provision, with the

fundamental issue being that of coordinating across federal and state departments and across area health services and individual agencies.

Regular screening for use of all substances is necessary, as is the continual assessment and reassessment of the client's motivation to change. Tailoring interventions to individuals' readiness-to-change stages and to their specific needs is an ongoing requirement. Taking a detailed medical history and screening for medical problems associated with serious mental illness and long-term substance use are also imperative. Moreover, anticipating challenges to engagement in the program, along with difficulties in medication adherence in this patient population, allows clinicians to plan more effective, responsive treatments.³¹

Ziedonis and colleagues³¹ suggested that the initial focus when developing treatment plans must be on encouraging a therapeutic alliance with the client and on offering MI, relapse prevention, and case management. Promoting positive health support from others (including family members and non-substance-using friends) and providing 12-step programs may assist with ongoing treatment adherence. The use of atypical antipsychotic medications may facilitate adherence since they are associated with fewer side effects and have been shown to benefit patients with schizophrenia and substance use.^{27,80}

Systems-level and service-delivery issues must also be addressed, in large part by confronting funding and structural barriers to coordinated and integrated service provision, managing staff resistance to change, providing case management and ACT services, offering further training to specialist staff, and addressing negative stereotyping.³¹

These comprehensive recommendations indicate that general medical practitioners should be involved along with mental health specialists and substance abuse specialists—which adds another layer of complexity in coordinating care. More generally, organizational barriers such as disparate funding streams and requirements, fragmented services, and a lack of cross-training among the frontline treatment providers constitute the foundational challenges to improving service provision to people with dual diagnoses.³¹

CONCLUSIONS

Consumers and caregivers struggle daily with the realities of living with dual diagnoses. For these people, existing support services have often been inappropriate or inadequate. The common treatment issues are well known, and there is considerable agreement on what individual and group treatments are effective. These treatments include MI; active, staged interventions; CBT; contingency management; relapse prevention; case management; social-skills training; and modified 12-step programs, along with education and

support for family and caregivers. A small cohort of people will require long-term residential treatments in concert with comprehensive services, including vocational training, housing support, and, at times, liaison with the criminal justice system.

The dually diagnosed have many concerns and difficulties in common, but they are not a homogenous group. Consequently, some groups within the overall population will especially benefit from more focused programs for individual needs. Of special note in this context are young people, and particularly those with first-episode psychosis, who can benefit in a multiplicity of ways from early interventions to reduce or stop consumption of commonly overused drugs, thereby avoiding the vicious cycle of mental illness exacerbated by polysubstance abuse.

Essential structural changes at the systems level of service provision are most difficult to address since they depend on intergovernmental collaboration and effective cross-sectoral communication, coordination, and accountability. Staff education—to address preconceptions, insufficient information, stereotyped attitudes, resistance to change, and lack of confidence and skills in treating either the mentally ill or substance abusers—is a crucial ingredient for better treatment outcomes.^{81,82} The quality of services and the fidelity of programs to established policy and to the service model are also important.⁶⁵ Consumers and caregivers value understanding, responsive, caring professionals. Regardless of whether services follow integrated or parallel models, they should be well coordinated, take a team approach, be multidisciplinary, have specialist-trained personnel with accessible, 24-hour contact, and offer a range of program types, all of which should provide for long-term follow-up.

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