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Original Article

ADDICTIVE DISORDERS & THEIR TREATMENT

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Psychosocial Treatment of Patients with Schizophrenia and Substance Abuse Disorders

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Abstract

Substance abuse among patients with schizophrenia is quite common, with at least half of these individuals having a lifetime diagnosis of a substance abuse disorder. These so called "dual diagnosis" or "co-occurring disorder" patients have an increased utilization of medical and psychiatric services. They are more difficult to treat and usually have a worse prognosis as compared with non-substance abusing patients with schizophrenia. Fortunately, in recent years, the treatment of dually diagnosed patients has significantly improved. It has been established that the best treatment of these patients includes enrollment in an integrated program that treats both mental illness and substance abuse problems simultaneously. Previously, we published an article that reviewed the available psychopharmacological options for treatment of co-occurring disorder patients. This article will focus more on the psychosocial treatment modalities that have been used to reduce the psychiatric morbidity and substance relapse in these patients.

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OVERVIEW OF THE PROBLEM

Dual diagnosis patients are those suffering from concurrent substance abuse disorders and psychiatric conditions, such as schizophrenia. According to a recent study, schizophrenia occurs in about 1 to 2% of the population.[1] The prevalence of a substance use disorder (abuse or dependence) among the general population is approximately 16%. It is estimated that lifetime substance-abuse problems are found in 47% of the individuals with schizophrenia, and the odds of having a substance abuse diagnosis are 4.6 times higher among these patients as compared with the general population.[1] This higher rate of co-occurrence of substance abuse by patients with schizophrenia has been reported in other studies, with rates of substance misuse ranging from 25% to 75%.[2–4] When separating this into alcohol and drug abuse diagnoses, 34% of patients with schizophrenia have a lifetime of alcohol-abuse/dependence diagnosis and 28% have a lifetime of drug abuse/dependence diagnosis. These numbers are significantly higher than rates among the general population, for whom alcohol problems is 13.5% and drug abuse diagnosis is 6.1%.[1]

The comorbidity of these disorders has significant negative consequences. Research has suggested that the co-occurrence of a psychiatric disorder and substance abuse problem leads to a higher rate of medical illnesses such as HIV and Hepatitis B and C.[5,6] The use of illicit drugs by patients with schizophrenia could lead to exacerbation of psychotic and depressive symptoms, increased suicide attempts, more frequent hospitalizations, and poorer prognosis.[7–11] These patients were 8 times more likely to be noncompliant with taking medication than those without comorbid substance abuse disorders.[8,12] In addition to the negative impact on disease course and treatment response, dually diagnosed patients also added a greater financial burden to our society by being more likely to be homeless, involved in violence, and incarcerated or hospitalized.[9,13–15] Thus, it is imperative that

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these patients receive all the assistance available to them to reduce the negative impact of their illnesses.

POSSIBLE THEORIES FOR SUBSTANCE ABUSE BY PATIENTS WITH SCHIZOPHRENIA

It remains unclear why patients with schizophrenia have higher rates of alcohol and drug misuse. One common belief among clinicians is that they might medicate their own symptoms with substances, the so called "self-medication hypothesis."[16–18] Other possibilities may be these are two separate disorders that share common risk factors, or that patients with schizophrenia may be more biologically vulnerable to the rewarding effects of drugs of abuse.[19] Potential organic factors, such as genetic vulnerability, may also play a role in this co-occurrence. It has been proposed that there are overlapping mechanisms between psychosis and drug abuse, and this has been supported by one study that reported familial background is an important variable affecting the duration of psychosis associated with substance abuse.[20] There is also a likelihood that inheriting some kind of "risk traits" linked with the genes of schizophrenia could result in the higher rates of substance abuse in this population.[21] Psychosocial factors can also increase the risk for drug use. Psychotic patients with drug problems tend to have a "downward drift" lifestyle, often resulting in living with other people with mental illnesses and/or substance addictions. The association with other users, the higher stress, and the hopeless lifestyle may increase the risk for substance abuse by them.[22] Finally, there are data available suggesting that patients with schizophrenia use drugs for the same reason as other drug users; to seek relief from stressful life events, boredom, social pressures, and for the pure enjoyment of the substances.[23,24] To treat these patients, a good understanding for reasons of their drug abuse are essential. However, despite multiple theories proposed here, the exact nature of why patients with schizophrenia have higher rates of substance misuse has not been clearly elucidated.

DIAGNOSIS

Given the various symptoms and dramatic presentation of these co-occurring disorder patients, it may be difficult to make a diagnosis of schizophrenia in the face of active substance abuse. To meet DSM-IV-TR diagnosis for schizophrenia, one must have a cluster of psychiatric symptoms not attributable to substance use.[25] Clinicians need to be certain that the psychotic symptoms occurred prior to the onset of substance abuse or find a period of abstinence 1 month or longer where these symptoms persist without the effect of illicit drugs or alcohol.[26] When patients suffer from both symptoms of schizophrenia and substance abuse, it is often unclear whether the psychiatric symptoms occurred secondary to their schizophrenia or substance abuse or as a combination of both. Substance abuse by itself can precipitate psychotic symptoms, but drug use also can exacerbate pre-existing symptoms of schizophrenia. Studies have shown that those with higher rates of substance abuse have a higher risk of developing schizophrenia later on in life.[27–31] Whether this is due to the drug use, personal vulnerability, or as part of the prodromal schizophrenia symptoms remain unclear. Often individuals with schizophrenia appear to be more sensitive to drugs of abuse, and in one animal model study, drug use progressed quickly from casual use to addiction.[32]

When a new patient appears with psychotic symptoms and substance abuse problems, one cannot purely depend on the cross sectional clinical examination for making diagnosis. Additional information, such as urine toxicology tests, collateral information from reliable individuals (family members or friends), and longitudinal histories, all are necessary to assist with the diagnostic process. Finally, despite our best efforts, psychiatric diagnosis can continue to be unclear among dual diagnosis patients. One study

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showed that when adhering to strict research diagnostic criteria, psychotic patients with cocaine abuse could be extremely difficult to diagnose even with long follow-up.[33] Thus, for substance abusing psychotic patients, primary psychiatric and substance abuse diagnoses may not be certain, but nevertheless, given the severity of the illnesses, treatment of both disorders must be implemented.

AVAILABLE TREATMENT OF SCHIZOPHRENIC AND SUBSTANCE ABUSE PATIENTS

Traditionally, treatments for patients with schizophrenia may include both pharmacological and psychosocial interventions provided longitudinally. For patients with substance abuse problems alone, initially, they may require either medical (with medications) or social (without medications) detoxification. Then they need to be involved in substance abuse treatment programs with activities such as individual therapy and group meetings, house responsibilities, outside meetings, and establishing a comprehensive aftercare plan. They need to adhere to the Alcoholic Anonymous (AA) and/or Narcotic Anonymous (NA) philosophies, with emphasis on working the 12 steps, understanding the concept of higher power, and getting a sponsor. After a period of abstinence, recovering addicts may move on to a recovery home or other sober living environment. There are also medications to assist addicts in staying sober; however, they have been underutilized.

The typical treatment of dually diagnosed patients does not follow this course and is frequently disjointed. Often, patients are stabilized psychiatrically in inpatient mental health settings, but then they are discharged to outpatient mental health clinics and instructed to attend AA or NA meetings. However, most of the time they are unwilling or unable to attend treatment of their substance abuse problems. The mental health and the substance abuse treatment philosophies differ from each other, and there might be different interpretations of patients' psychopathology, degree of motivation, and treatment prognosis. Historically, there has been a lack of cooperation between the two disciplines in treating dual diagnosis patients.

There is an increasing body of literature suggesting that simultaneous interventions for mental health and addiction problems are necessary for successful treatment of these patients.[34–37] Therefore, a newfound working relationship between mental health and substance abuse treatment is essential for a favorable outcome.

Pharmacological Treatment of Dual Diagnosis Patients

In the medication management of patients with schizophrenia and substance abuse, one must be clear on the treatment goals. Initially, the immediate focus needs to be the reduction of life-threatening medical conditions commonly associated with substance misuse and psychosis. Depending on the drugs of abuse and the severity of withdrawal symptoms, stabilization of acute medical conditions must be the initial goal. The purpose of detoxification is to prevent serious complications, such as seizures, strokes, cardiovascular events, delirium tremens, or death, from occurring. Treatment of withdrawal conditions is also another means of preventing further relapse as many patients might use substances to abate their withdrawal symptoms. Often clinicians also need to control agitated behaviors, suicidal or homicidal thoughts, and other psychotic symptoms. After gaining control of the more critical symptoms, then one can proceed with other treatment. For patients with schizophrenia, their symptoms must be controlled before they can engage in appropriate psychosocial treatment.

In a previous article, we noted that there is a dearth of pharmacological trials for patients with substance use disorders and schizophrenia.[38] Furthermore, despite the recent trend of applying pharmacotherapy to the treatment of addictive disorders, their use in patients with co-occurring disorders has not

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been examined systematically. We continued to search for medications that can effectively treat the psychiatric disorders as well as reduce substances of abuse, but the lack of rigorously clinical trials has failed to give us appropriate guidance. While we may never be able to find that "magic" medication, we should continue to search for any modalities that can stabilize patients' psychiatric symptoms while enhancing their compliance and engagement with psychosocial treatments.

Current Treatment of Patients with Schizophrenia and Substance Use Disorders

Historically, when dual diagnosis patients are ill, they need to be admitted to the hospital, stabilized psychiatrically, and then discharged with follow-up appointments at local mental health clinics. Once patients have recovered psychiatrically, then they are encouraged to start substance abuse treatment. This is an example of sequential treatment, where one illness needs to be treated before another condition can be addressed. Another approach is the parallel treatment, where both substance abuse and mental health treatment can occur at the same time but in different locations. Unfortunately, these strategies have not been effective and have demonstrated the difficulties in effectively treating this population.[39–42]

Obstacles to Collaboration between Psychiatric and Substance Abuse Treatments

Several conflicting issues are involved in using traditional treatment strategies for dual diagnosis patients. Psychiatric treatments and substance abuse programs often have different orientations and philosophies. Mental health programs tend to focus on crisis management, symptom reduction, development of a working alliance, use of empathy, and reliance on psychotropic medications. Substance abuse programs usually concentrate more on attending self-help groups, such as AA and NA meetings, and following the 12-step philosophy with the use of the "higher power" concept, tough love, breakdown of denial, and acceptance of one's addiction. They are more likely to confront denial, set firm limits, provide structure, and de-emphasize the use of psychoactive medications.

The strict adherence to the traditional substance abuse treatment philosophy often fails to address the unique symptoms and obstacles that schizophrenic patients face. For instance, a delusional paranoid psychotic patient may be confused or unable to accept the concept of the "higher power." Negative symptoms of schizophrenia, such as amotivation, avolition, and apathy, are particularly vexing and are not expected to fade with abstinence. However, in substance treatment programs, these symptoms might be interpreted as a lack of wish to change, denial of one's own substance abuse problems, and sabotaging one's own abstinence goals, and staff might misinterpret that these symptoms are under voluntary control rather than being core symptoms of schizophrenia. Clearly, this can lead to a different understanding of the patient by the substance abuse treatment staff, possibly leading to a confrontation that might not benefit or be well tolerated by a psychotic patient. Dual diagnosis patients often suffer from the cognitive impairment or limitations seen in both schizophrenia and in substance abusers. Patients may display symptoms reflecting poor executive functions, such as impaired attention, decreased verbal memory/fluency, or inability to concentrate. Most traditional substance abuse treatments require intact cognition to use approaches like Cognitive Behavioral Therapy, manual therapy (including homework assignments), or AA book study to help clients reduce substance use. Without intact cognition, substance abuse treatment might not be successful. In addition, most substance abuse treatment strategies (relapse prevention, 12-step recovery) depend on an intact ability to develop interpersonal skills. Patients with mental illness, especially those with schizophrenia, may have impaired ability to communicate with others. In order for substance

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abuse treatment to be effective, one must integrate social skills development as part of the whole treatment plan.[43–46]

Integrated Treatment Model

Over the last 20 years, studies suggest that an integrated treatment program that addresses both mental illness and substance abuse problems concurrently appears to be the most effective means of treatment of dual diagnosis patients.[34–37,40,43–44] The program has to be able to manage acute detoxification to crisis intervention to long-term management and relapse prevention. Some essential parts of the integrated program should involve medication monitoring, intensive case management, motivational intervention, a modified version of the 12-step recovery groups, and relapse prevention groups. Other components should include counseling, social support, long-term perspective, vocational rehabilitation, family education, and if possible residential support.[34,37,43,45,46] However, one must understand that traditional substance abuse treatment strategies will require some modification to deal with the deficits commonly associated with patients suffering from schizophrenia.[35,43,45,46] Finally, an integrated treatment program should be able to handle patients who are at different stages of readiness for treatment as proposed by Prochaska and DiClemente.[47] These stages include precontemplation, contemplation, preparation, action, and maintenance period. The program should have specific tools to help patients at each stage, and this will be discussed later in this article.[45–47]

There is growing evidence that integrated systems are more effective than separate systems treatment.[34,40,44,45,48–50] Drake compared outcomes between 150 dually diagnosed homeless persons in an integrated treatment program versus 59 dually diagnosed patients receiving standard, parallel care. Those who received integrated treatment had more days of stable housing and less days of hospitalization. The integrated program patients also had reduced alcohol use.[49–51] Our group has completed a study that described the essential components of the integrated treatment program. We showed that by adding assertive case management and skills training, we were able to improve patient treatment retention, while reducing drug use and hospitalization.[44] There is emerging data demonstrating that treating dually diagnosed patients in a single treatment system (substance disorders alone or mental health alone) will worsen outcomes as compared with treatment in an integrated program.[49,52] However, some of the studies on the effectiveness of integrated treatment systems are limited by small sample sizes, lack of randomization, and patient selection bias.[41] An integrated treatment program is costly to run, and training and staffing a qualified multidisciplinary team can be difficult. Despite these problems, on a long term basis, integrated treatment can decrease the cost to the criminal justice system though fewer arrests, fewer probation violations, reduced hospitalizations, and less noncompliance with medications.[53–55] In summary, integrated programs are better at engaging dually diagnosed patients into treatment, reducing rates of relapse to substance abuse, promoting psychiatric symptom remission, reducing hospitalizations, and improving quality of life.[44,45,49,50]

PSYCHOSOCIAL TREATMENTS FOR DUAL DIAGNOSIS PATIENTS WITH SCHIZOPHRENIA

There are many treatment strategies and principles that may be implemented in an integrated system. The nature, quality, and choice of which interventions are used depend on the available resources of the treatment providers and the community. The following is an overview of the most commonly available treatment modalities and evidence for their effectiveness. To successfully treat dual diagnosis patients with schizophrenia, the psychosocial interventions used in substance abuse treatment described below

require modification to address the special needs of this population.

Case Management (Assertive Community Treatment)

The primary responsibilities of a case manager include establishing a working alliance with the client during the engagement process, linking patients with available services and treatments, serving as a patient advocate, and maintaining a working relationship between patients and the treatment team.[52,56] Case managers need to develop a therapeutic alliance with patients, especially during a crisis period, and this alliance is fundamental to a positive treatment outcome.[57] Case managers assist patients to obtain disability funds, help establish housing, and provide support and education to families. But most of all, case managers must serve as the patient's advocate to clinicians and treatment teams. Case management is essential during the periods of precontemplation and contemplation by engaging patients. Using an alliance developed with the patients and the support they provide are the keys to increase patients' desire for wanting treatment.[46,52,58]

Intensive case management has been one of the most extensively researched interventions among dual diagnosis patients. Hellerstein demonstrated that without case management, many dually diagnosed patients drop out of treatment, whereas having case management as part of a treatment program is associated with improved rates of retention.[59] There are 2 types of case management; standard case management and assertive case management. In standard case management, the patients are given referrals and are left to follow-up themselves. In assertive case management, the treatment team is more active, often going to visit clients in the field and helping them to link up with services. Clark compared the effectiveness of assertive case management versus standard case management over a 3-year period in a dually diagnosed population. Both groups showed significant reductions in drug use over time, but the assertive case management was more efficient.[60] Another focus of case management is the money management process and, at times, case managers act as an intermediary between the patients and the payee or conservator. The control of money is critical to limiting access to drugs and may promote treatment retention. Shaner reported that there is a cyclic pattern of disability payments leading to drug use that eventually lead to increased psychiatric symptoms and need for hospitalizations.[9] This cycle is clearly influenced by monthly receipts of disability payments. Without assisting in the money management issues, a critical trigger to ongoing drug use may be missed. Although the findings are not conclusive, the use of case management among dual diagnosis patients appears to reduce drug use, improve symptoms, and increases patients' satisfaction in general.[39,44,46,57,60,61]

Motivational Interviewing

Patients with schizophrenia often have a difficult time staying committed to a task completion, especially reducing use of substances of abuse.[36,62] This may be due to cognitive impairment, attentional difficulties, ambivalence, or anergia/avolition. Motivation is an important variable in predicting improvement in addiction treatment. Motivational interviewing is based on the recognition that substance abusers are in different stages of change of behavior.[45] Using motivational interviewing, clinicians can help move patients from stages of precontemplation to contemplation, or contemplation to preparation and/or action.[63] Motivational interviewing helps create a salient dissonance or discrepancy between the person's current substance abuse behavior and important personal goals. By using the motivational interview, it helps to resolve ambivalence, constant oscillation, and promote behavioral change. Emphasis is placed on personal choice, responsibility, and awareness of the risks and benefits of continued substance use.[46,64,65] Ongoing psychosocial treatments need to be able to engage patients who are at varying levels of motivation. Individuals with

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psychiatric illness like schizophrenia often have low motivation and little incentive for change. Motivational interviewing must be modified for this population to address their special needs. The majority of studies of motivational interviewing have been in the primary substance use literature, but some reports have suggested promise in the treatment of dual diagnosis population as well.[46,63]

Barrowclough et al compared an integrated treatment program (comprised of motivational interviewing, cognitive behavioral therapy, and caregiver interventions) versus routine care. The results demonstrated that an integrated program showed significant improvements in overall functioning and an increase in the abstinence rates. There were also significant reductions in positive symptoms and symptom exacerbation. Finally, treatment retention was higher, suggesting that patients were able to remain engaged in an intensive program.[66] In another study, Graeber et al compared motivational interviewing with an educational intervention in alcohol dependent schizophrenic patients. They report that motivational interviewing was associated with an increase in abstinence rates and a decrease in total number of drinking days. Interestingly, psychiatric symptoms were not affected.[62] Motivational interviewing is easy to learn and conceptually manageable but does require patience, especially if patients remain in the precontemplative stage of change despite continuing drug use problems. Data have shown that motivational interviewing holds promise in the treatment of dual diagnosis patients, but more research is necessary to establish its potential and limitations.[62,65,66]

Self-Help Group/Dual Recovery Anonymous

The 12-step self-help group is one of the most well-known and available treatments for addictive disorders. The foundation of 12-step groups, either AA or NA, is that substance abuse disorders are chronic and relapsing medical illnesses.[67] The groups provide a support system for those in recovery while dealing with cravings and urges to use. The only criterion for attending is a desire to stop using substances. Its strength lies in its ability to provide structure, support strict adherence, and fellowship. Compliance, acceptance of one's own denial, and the religious undertone have been some key obstacles for addicts to totally embrace the AA philosophy.[68]

There are some unique aspects of the 12-step approach that might pose difficulties in the treatment of dually diagnosed patients. First, most 12-step programs lack an in depth understanding of psychiatric disorders and manifestation of their symptoms.[69,70] In the past, some people in AA would attribute psychiatric symptoms to drug and/or alcohol use. As a result, this lack of understanding of comorbid psychiatric conditions can be detrimental to dually diagnosed clients. Furthermore, many people attending AA 12-step groups may not be receptive to the idea of clients taking "psychoactive" medications. Clearly, this could be a deterrent for dually diagnosed patients. Finally, the need to share and express oneself in group settings, as well as the public sharing of one's own story, may be difficult for schizophrenic patients with inappropriate affect, cognitive, and social skills impairment.[71] In response to these unique challenges, 12-step based fellowships designed specifically for dual disorder patients have emerged. They are called "Dual Recovery Anonymous" and "Double Trouble in Recovery." Patients who are in the action stage can use these groups to improve themselves. Magura demonstrated that this specialized approach was associated with better attendance, less substance use, and better medication compliance.[71]

To date, there are only limited data to support the effectiveness of AA/NA for all alcoholics and drug addicts, and there is even less research in addressing the efficacy of using the 12-step approach for the treatment of dually diagnosed patients.[67-71] In one study, Noordsy et al reported that only 20% of dually diagnosed patients were able to maintain involvement in these groups.[72] Others prospectively followed a Double Trouble in

Recovery group for 1 year and found that variables such as older age, abstinence at baseline, and having a greater self-efficacy, were the best predictors of retention in treatment. Overall retention rates in this group, though, were much higher than previously reported for other more traditional 12-step groups.[73]

Cognitive Behavioral Therapy (CBT)

Cognitive behavioral therapy (CBT) emerged from the work of Beck and others and was initially used in the treatment of depression. Subsequently, its value in a variety of psychiatric disorders has been clearly established.[74–79] The central theme of this therapy is to reframe cognitive distortions that are reinforcing maladaptive behaviors. By addressing and correcting negative beliefs, this will in turn reduce negative behaviors associated with them. Currently, the effectiveness of CBT has been demonstrated in the treatment of patients with mood and anxiety disorders, substance abuses, personality disorders, and schizophrenia.[61,80–82] In dually diagnosed patients, the goal of treatment is to reduce relapse to substance use by challenging core beliefs regarding substance use and restructuring cognitive distortions associated with the dysfunctional behaviors. Dual diagnosis patients in general have impaired cognition secondary to either their schizophrenia and/or substance abuse. Therefore, when this therapy is used among dual diagnosis patients, one must take this deficit into account. CBT, when used in substance use disorders, usually focuses on relapse prevention techniques and consists of role playing, altering cognitive distortions, and developing new ways to deal with triggers and cravings.[46,80,81,83] CBT can focus on core beliefs regarding drug use, with particular attention paid to triggers to relapse, learning to deal with risky and vulnerable situations, and recognizing the effect of reducing drug use. For patients with cognitive deficits, CBT must focus more on behavioral strategies, such as to prevent relapse by using "role playing" rather than relying on intact processing skills.[46,84] Although evidence exists for cognitive behavioral therapy's effectiveness in substance abuse disorders, there are very limited data when CBT is used in the dual diagnosis population. In a small study, Nigram et al evaluated relapse prevention versus usual mental health services and found that 6 out of 8 patients were able to remain in treatment with CBT.[85]

Social Skills Training (SST)

Social skills training (SST) involves interventions that are designed to rehabilitate patients to improve their competence in social functioning. As mentioned previously, patients with schizophrenia often have impaired ability to develop interpersonal skills, which are essential for attending groups and establishing alliances with other addicts to deal with their daily struggle with drugs. Most programs employ a variety of interventions that allow clients to develop problem-solving skills, such as self-care tasks, learning how to carry on conversations, and managing money.[61] Research of SST in patients with schizophrenia has shown that life skills can be acquired and that maintenance of these skills is aided by a case manager who is actively working with the client.[86,87] Basic interpersonal skills are necessary to obtain a sponsor to assist in one's own recovery program, and patients with schizophrenia might require additional training to assist them in this process.

The effectiveness of social skills training has been examined in substance use disorders and is built on developing relapse prevention skills. Clients are taught to identify high-risk situations (carrying cash, being in a place of drug access) and to use role-playing and modeling to develop new ways to avoid drug use. A Substance Abuse Management Module (SAMM) for treatment of dual disorder patients has been developed, and it uses the techniques of social skills training and relapse prevention strategy.[87] A feasibility study of incorporating SAMM in 56 dually diagnosed schizophrenic patients was conducted. Thirty-Four patients completed treatment, and 3 months later they reported improvement

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in number of days abstinent, quality of life measures, and reduction in Brief Psychiatric Rating Scales (BPRS) scores.[88] This is the only known study of social skills training in a dual diagnosis population, and clearly this strategy merits further evaluation.

Contingency Management (CM)

Contingency management (CM) is a psychosocial treatment approach that focuses on rewarding abstinence with incentives, which could be money or other desirable products. Among substance abusers, contingency management is used to provide salient, non-drug reinforcers that may influence one's own decision not to take drugs or alcohol.[89–91] Evidence is accumulating regarding the effectiveness of this approach with substance abusers. Contingency management has been shown to lengthen treatment retention longer than counseling alone for both alcoholics and cocaine addicts.[92] In addition, CM has reduced drug use for clients addicted to alcohol, opiates, cocaine, marijuana, and nicotine.[89–92]

There are some initial reports of successfully using contingency management for reducing drug use among dual diagnosis patients. Shaner used a contingency management strategy with 2 homeless veterans with co-occurring disorders of schizophrenia and cocaine addiction. They were given $25 for every negative urine toxicology test. The results showed that monetary reinforcement of abstinence did decrease cocaine use for these 2 patients.[93] Sigmon conducted a feasibility study of utilizing contingency management in marijuana-dependent patients with schizophrenia. At baseline, 18 subjects were given payments for urine specimens. Then during 3 follow-up visits, subjects were paid for marijuana-negative urines only. The number of negative urines was significantly higher in the incentive period than at the baseline period.[94] Currently, there is a lack of large controlled trials of contingency management for dually diagnosed patients, leaving the question unanswered about what happens to drug use once the contingency rewards are removed.

Family Education and Groups

Working with family members of dually diagnosed patients is critical for many reasons. Family members can provide reliable information to assist in the diagnosis and treatment of psychiatric and substance abuse disorders. Often family members develop understanding with patients that clinicians cannot attain. Family members need to be educated so they know how to recognize and deal with both psychiatric and substance abuse disorders. They are essential in the treatment and placement of patients, and they can provide an important support network for other families who have members suffering from the same illness. It is important to know that many patterns of substance abuse illness are enabled and perpetuated by unsuspecting families and that this process may not be identified without a professional evaluation. Family groups are important in that they provide support to one another in time of need. Mueser described a family intervention model that teaches the family the information and skills needed to manage the dually diagnosed family member. The intervention is usually time limited, but can last up to 2 years and puts the family member through the stages of recovery (engagement, psychoeducation, problem-solving, maintenance).[95] In a small, uncontrolled pilot study, they showed that family intervention was able to reduce substance use in 6 dually diagnosed patients over the course of 2 years. This was the first demonstration that family interventions can be effective for treatment of primary mental illness as well as for dually diagnosed clients.[95]

Total Abstinence Versus Harm Reduction

In traditional substance abuse treatment programs, the major goal remains to have a total abstinence from psychoactive substances. The disease model of addiction suggests that clients need to completely stop using drugs and alcohol in order for them to regain control. Simply reducing substance use leads to ongoing problems and continued risk for relapsing and uncontrolled use. The total

abstinence model has demonstrated its legitimacy in the treatment of primary substance abusers. However, due to the clinical reality of poor results from the total abstinence approach in the treatment of patients with schizophrenia and substance abuse, some have advocated the use of a harm reduction approach with this population. The harm reduction model looks to reduce the harmful consequences of drug use (to the client and society) and provides an alternative to zero-tolerance treatment programs.[96,97] It is not an attempt to legitimize or promote drug or alcohol use but rather to tailor interventions to clients depending on their level of motivation to change and their abilities to change.[97] The focus is on the consequences of substance use, instead of placing blame on the drug users. Data on harm reduction models have shown reductions in HIV transmission rates and reduction in drinking behaviors of high-risk adolescents/college students.[97] To date, though, there have been no publications of harm reduction in the dual diagnosis population. Theoretically, a harm reduction approach may promote treatment retention of clients in that it tailors the interventions to their desires to change. However, one must also be aware of the pitfall of letting clients take the lead in their substance abuse treatment, and the lack of limit setting in some of these patients could lead to further deterioration of their conditions. Further work is needed to standardize harm reduction strategies within the dual diagnosis population.

Clinician's Attitude (Countertransference)

Dual disorder patients have a chronic, relapsing condition consisting of both drug use and psychiatric symptoms. As a result, patients and providers alike often have difficulty dealing with their relapse and maintaining a positive outlook toward recovery. Compared with other chronic illnesses, like diabetes or high blood pressure, people with substance use disorders can and do recover.[98] Too often, though, health care professionals feel demoralized and pessimistic when patients relapse to drug use or when psychiatric symptoms like poor insights or suicidal attempts are repeated. Those with dual diagnosis often struggle with a lack of motivation, denial, and hopelessness. These factors can lead to withdrawal of the clinicians or inappropriate anger toward the patients. When patients encounter the negative countertransference feelings from their treatment providers, it can influence their desire to change. By receiving persistent outreach, support, and optimism from health care professionals that they have not experienced in other treatment settings, dual diagnosis patients may be more encouraged to make active changes.

CONCLUSION

In summary, dual diagnosis patients are common in clinical practice, but their treatment course can be complicated and difficult. The best approach we have currently is to use an integrated treatment program that delivers psychiatric and substance abuse treatment concurrently. While we may never be able to find the "magic" medication, we should continue to search for biologic agents that can effectively treat the psychotic disorders as well as reduce substance abuse. Psychosocial interventions have been developed and studied more extensively for treatment of substance abuse only patients. But for dual diagnosis patients, there are few empirical studies and the presence of many obstacles that can interfere with their ability to use these substance abuse treatment tools successfully. The vulnerabilities displayed by these patients with schizophrenia include cognitive deficits, poor interpersonal skills, innate symptoms of low motivation, and unwillingness to change. To effectively treat these dual diagnosis patients, the psychosocial interventions used in substance abuse treatment will require some modification. To date, the strongest evidence for effective management of these patients has been utilization of both mental health and substance abuse treatments concurrently. The most essential components of

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treatment of substance abusers have been discussed in this article. The effectiveness of dual diagnosis treatment may be dependent on the degree to which these interventions can be modified to meet the unique needs of patients with schizophrenia, while also including specific interventions for particular stages of change for substance abuse. The treatment of dual diagnosis patients has evolved tremendously since the days of openly refusing treatment of substance abusing patients with schizophrenia. Still, there are many more steps and treatment gaps to fill to effectively treat this population consistently.

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