

Managing dual diagnosis patients with psychosis and substance use disorders

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Abstract

Comorbid psychosis and substance use disorders present unique challenges in management. Diagnostic difficulties, poor motivation, paranoia towards treatment setting, medical comorbidities, drug interactions, homelessness and social isolation are some of the potential problems in such patients. Many types of service delivery models are available for provision of care to these patients. The integrated model seems to fare better than others. Detailed assessment of these patients is needed, especially involving the medical comorbidities and psychosocial difficulties. Pharmacological interactions between the medications prescribed and with the substance of abuse should be taken into consideration. Measures need to be taken to enhance adherence. The usefulness of different antipsychotics is discussed. Modification in the psychotherapeutic approaches must be considered in dealing with this set of patients. Cognitive behavior therapy, motivation enhancement, contingency management and group therapies have been shown to be effective. Further large scale studies need to be conducted to bolster the evidence base for these disorders, so that patient outcomes could be improved.

Introduction

Substance use disorders are known to frequently co-occur with other psychiatric disorders, particularly psychotic disorders, bipolar disorders, depressive disorders, personality disorders and others.¹⁻⁵ Referred to as 'dual diagnosis' in the health care literature,⁶ such comorbidity often has a complex inter-relationship and poses etiological queries, diagnostic quandaries and management difficulties. Comorbidity of psychosis and substance use disorders presents a particular challenge in this regard. The prevalence of substance use in psychotic disorders can vary from as low as 6 percent to over 50 percent, reflecting the magnitude of the problem.^{7,8}

Psychoactive substances more commonly associated with psychotic states and disorders, whether in intoxicated or withdrawal states, include: alcohol, cannabis, amphetamine, hallucinogens, cocaine, phencyclidine, sedative-hypnotics, inhalants and opioids.⁹⁻¹¹ Such comorbid psychoses vary in prevalence with the type of substances, and include: schizophrenia, schizoaffective disorder, delusional disorder, bipolar disorder and other affective disorders and substance induced psychosis. Many a times the cause and effect relationship of these substances with psychosis is not clear. Many theories have been put forward to explain this association,¹² in terms of one causing the other as well as a common cause or vulnerability to

both substances. Despite such consideration the causality, the direction of inducement and the progression may not be clear.

Management of such dual diagnosis cases rakes up many questions and issues: Which disorder should be treated first? Which setting should be preferred - general psychiatry or de-addiction setting? Who should be treating the patient – a psychiatrist or a de-addiction specialist? Which medications are to be preferred or avoided? What kind of psychotherapies work? And so on. This review deals with some of these issues, focusing on the available evidence in the management of such dual diagnosis cases with substance use and psychosis.

Difficulties in management

The management of these cases is difficult on many counts. One of the major challenges is the low motivation towards the cessation of substance misuse and treatment measures.¹³ This low motivation could be attributed to many factors. The subject might be using the substances to induce relaxation, to elevate mood, and to gain a feeling of confidence.^{14,15} Others might be using the substances to counteract either the dysphoria due to hallucinations, or the side effects of antipsychotic medications. Another related issue is of low self efficacy in these subjects. All these may make abstaining from substances difficult.

That these cases are difficult to engage into treatment process is well recognized. Paranoia towards the treatment services and the therapists may be one impediment towards engagement into treatment. The patients may fear forced treatment and detention. Also, such patients may have poor understanding of their illness or may not regard the substance use as a major issue, and hence may not regard the treatment as a necessity. Additionally, fear of stigma of both the illnesses may deter the patients from the

services.¹⁶

These patients have a greater risk of having other physical comorbidities like HIV and Hepatitis C.¹⁷ Comorbid psychosis and substance use disorders have greater likelihood of having chronic medical illnesses,¹⁸ are more prone to violence, have a higher suicidal risk,^{19,20} and encounter multiple social problems like homelessness and social isolation.²¹ Patients with substance disorders and psychosis are at a higher risk of becoming non-adherent to treatment.²² All these increase the chances of relapse of both psychosis and substance use.²³

The pharmacological management in these patients is also fraught with many challenges. These patients require multiple medications to treat both the conditions, raising concerns for drug interactions and additional side effects. There also lies a possibility of abuse of prescription medications like benzodiazepines. A closely associated challenge is the service provision to these patients. In many countries, de-addiction and general psychiatric services are provided by separate agencies. This raises the issue of fragmentation of care and the potential miscommunication and patient being shuttled between the services.

Substance use hastens the onset of psychotic illness in vulnerable population.²⁴ The patients with substance use and psychosis dual diagnosis have a poorer prognosis as compared to patients with either substance use or psychosis. They are hospitalized at an earlier age, have longer durations of illness and hospital stay, and frequent relapses and hospitalizations.^{25,26} Comorbidity of substance use and psychosis also escalates the treatment costs.²⁷

The abovementioned factors make the management of the patients with dual diagnosis of substance use and psychosis particularly challenging, and necessitate certain modifications in the treatment.

Service delivery models

The service delivery aspects of psychosis and substance abuse dual diagnosis treatment have been well discussed in the western literature.^{6,28} Three models of services to these patients have been indentified which vary in the sequence of provision of services, agencies providing the services, relative importance given to each disorder and the type of funding. These models are:

1. Serial (sequential) model: The two disorders (substance use and psychosis) are treated one after the other by different services. The importance given

treated simultaneously but by different services. Both disorders are given equal importance. Funding of the two services remain separate.

3. Integrated (hybrid) model: The two disorders are treated at the same time, in one setting and by one team. Both the disorders are given equal emphasis and the funding is combined for management for both the disorders.

The advantages and disadvantages of these three models have been discussed in Table 1. The integrated model provides comprehensive care to the patient and avoids the need to shuttle

Table 1: Models of treatment services

Serial	Parallel	Integrated
Advantages		
<ul style="list-style-type: none"> • Personnel need not change basic concepts. 	<ul style="list-style-type: none"> • Does not need large administration and systemic changes. Both disorders handled concurrently. 	<ul style="list-style-type: none"> • Comprehensive, effective, cost efficient. • Reduces mortality, relapse rates, substance misuse, offending behavior, and physical morbidity. • Improves functioning, satisfaction with care, quality of life, medication adherence and access to services
Disadvantages		
<ul style="list-style-type: none"> • Patients are at times provided with contradictory information and explanation. • Potential of conflicts due to lack of coordination. • Patient may get rejected from either service because it often becomes a common clinical justification for exclusion from treatment. 	<ul style="list-style-type: none"> • Poor integration. • Incomplete treatment. • Expansive • Potential for miscommunication and contradictory recommendation 	<ul style="list-style-type: none"> • May not provide same intensity of treatment for substance misuse as is provided to psychiatric disorders
<p>to a particular disorder depends on the type of service agency. The two services are funded independent of each other.</p> <ol style="list-style-type: none"> 2. Parallel model: The two disorders are 		<p>between the two services. The components of integrated approach include standard mental health interventions, like pharmacological management and support services. It also</p>

encompasses assertive outreach to engage patients in treatment; intensive case management; individual, group, and family substance abuse counseling; psychosocial rehabilitation and occasionally an intensive or residential component.^{29,30} Assertive Community Treatment (ACT) is a type of integrated approach that has been well studied demonstrating benefits.³¹⁻³³ The cost incurred on this approach may not be higher than standard care.^{32,34}

The integrated model seems the best one for this kind of patient population. However, the implementation of services of integrated model may not be an easy task in many situations/ service orientations. Intensive activities at multiple levels have been advocated to facilitate implementation of integrated treatment model.³⁵

Assessment

The diagnostic assessment of these patients is often difficult because of complex interrelationship between substance misuse and psychiatric disorders in terms of onset and exacerbation.¹² Symptoms of both disorders can overlap or mask each other. Also, patients may try to conceal either one or both the conditions because of social stigma and discrimination associated with these disorders. Evidence suggests that substance use is often inadequately assessed leading to potential misdiagnosis and inadequate treatment.³⁶ Attempts have been made to clearly delineate substance induced psychotic disorders and independent psychiatric disorders. Analysis of a study reveals that family history of psychosis, history of trauma and current cannabis dependence were the strongest predictors of having a substance induced disorder.³⁷ In any case, for a substance induced disorder, causality needs to be considered. Temporal relation with initiation or increase in consumption, use of substances known to cause

psychosis, and absence of psychotic symptoms during cessation of substance use hint towards a substance induced psychosis.

While assessing these patients, it is important to lay emphasis on both the disorders. Detailed history of both the disorders should be elicited and the relationship of psychosis with substance intake should be evaluated. One should be open to the possibility of a diagnostic revision on follow up as more information becomes available, especially if the diagnosis has been made in an emergency setting. Since these patients are at higher risks of suicide and violence,^{19,20,38,39} these factors should necessarily be evaluated and monitored. The withdrawal symptoms should be assessed and managed. Since these patients are more likely to have medical ailments, a complete physical workup is warranted. Malnutrition (both undernourishment and obesity) should be sought for. The physical examination could be postponed until acute agitation resulting from the psychosis is resolved. Appropriate investigations would be needed to screen for medical illnesses like hepatitis and anemia. A review of past treatment should be made to ascertain the pharmacological and non pharmacological interventions tried, and their effectiveness should be documented.

Treatment setting – inpatient or outpatient – needs to be decided considering many factors like, being a threat to self or others, physical complications, need for detoxification, living conditions, healthcare and social support available in the community. Such a decision needs to be individualized for each patient depending on the current circumstances.

To formulate a comprehensive management plan an assessment of the psychosocial attributes of the patient is a must. Occupational instability, housing problems, marital issues, estrangement from family, social isolation, and criminality are

some of the important aspects. As these may turn out to be substantial roadblocks to the treatment process, they need to be taken into consideration. The assessment of personality could also be considered as personality disorders increase the incidence of both substance use and psychosis.⁴⁰⁻⁴² To assess the course and the response to treatment, appropriate clinical rating scales could be applied. This would objectify the treatment response and make the communication between therapists and services clearer. The Brief Psychiatric Rating Scale (BPRS) and the Positive And Negative Syndrome Scale (PANSS) can be used for the psychotic symptoms, and Clinical Institute Withdrawal Assessment for Alcohol scale (CIWA-Ar), Drug Abuse Screening Test (DAST), and Substance Dependence Severity Scale (SDSS) for substance use. Structured valid instruments may be used to make the diagnosis in a systematic manner to avoid misclassification.⁴³

The process of assessment as well as further management should never undermine or compromise the patient's confidentiality, privacy and dignity. This would help in developing a stable therapeutic relationship, a key to the long term management of these patients. Assessment must be treated as an ongoing process, and modifications of the management plan made during the course of treatment.

Pharmacological intervention

A wide variety of pharmacological agents can be used for the management of such patients. These include antipsychotics and adjunct medications for psychosis, and anticraving medications like naltrexone and baclofen, agonist agents like buprenorphine and deterrent agents for substance use disorders, and medications like benzodiazepines for the

management of substance withdrawal and agitation. Additionally, some patients may require other medications for management of associated medical illnesses like diabetes and hepatitis.

The pharmacological management should consider the following issues:

1. Modification of pharmacological treatment of psychosis as result of substance misuse. Medications like benzodiazepines should be prescribed with caution due to the risk of developing dependence.⁴⁴ Also, substance use may lead to change in liver functioning, altering the pharmacokinetics of medications. Hence a change in dosing may be required. Certain antipsychotics may interact with the substance of abuse causing discomfort.^{45,46}
2. Modification of pharmacological treatment of substance misuse as result of psychosis. Medications like disulfiram and baclofen that are otherwise used successfully for substance use disorder, should be used with caution as these may increase the likelihood of precipitating psychosis.⁴⁷⁻⁵⁰
3. Possibility of drug interactions and side effects. Co-prescription of medications for both the psychosis and substance use may increase the possibility of drug interactions. The side effects of the co-prescription may be additive and the causative agent may not be clear. Co-prescription of clozapine for psychosis and baclofen for alcohol cessation may enhance the chances of respiratory depression. In such a case, one medication should be stopped to assess for the amelioration of side effects. Additionally, the co-prescriptions for medical illnesses may complicate the clinical

- picture, necessitating further caution.
4. Diagnostic uncertainty. Often the diagnosis may not be clear for the psychosis being independent, or due to the substance use. In such cases, it may be better to presume both disorders as independent and start the evidence based treatment for both disorders simultaneously.⁵¹
 5. Medication adherence and depots. Patients with psychosis and substance use disorders are likely to be poorly adherent to medications. In such cases depot preparations may be useful. Risperidone depot has been shown to be better than zuclopenthixol in terms of abstinence from substance and control of psychotic symptoms.⁵² However, to avoid indiscriminate use in all patients, its use is best restricted to non-adherent patients.⁶ Use of adjunctive psychosocial measures would also improve outcome in such cases.

Table 2 lists the common medications used for the management of psychosis and substance use disorders, and the salient features while using in this population.

The question of which antipsychotic to use still remains unanswered. Excellent reviews have considered the evidence base for the dually diagnosis patients.⁵³⁻⁵⁸ The evidence concurs in some respects and deviates in terms of others. Most reviews conclude in favor of clozapine decreasing the substance use as well as controlling the psychotic symptoms. However, this conclusion is based upon case series, case reports and open label studies.^{59,60} Other antipsychotics like olanzapine, aripiprazole, quetiapine and risperidone have also been found to control substance use and psychosis.⁶¹⁻⁶⁴ While there is some evidence to suggest benefit

of second generation antipsychotic, particularly olanzapine, over first generation antipsychotics,⁵⁵ comparison of various atypical antipsychotics has not led to firm conclusions of one's superiority over another.

While generalizing the findings for antipsychotics, certain caveats should be considered. Across studies, the types of psychotic disorders and substance use disorders have varied. The dosages of antipsychotics used cannot be simply equated between the studies. Also, the setting of the studies and outcome measures differ. Hence the choice of antipsychotic needs to be individualized from case to case.

At present, large scale randomized controlled trials comparing efficacy and acceptability of different antipsychotics for management of co-occurring psychosis and substance use disorder are lacking. Better conclusions could be drawn when such research is available.

Psychotherapeutic intervention

Many non-pharmacological techniques have been utilized and recommended in the treatment of patients with dual diagnosis of substance use and psychosis. These have included motivational enhancement therapy and motivational interviewing, cognitive behavior therapy (CBT), brief interventions, behavior therapies including contingency management, family therapy and couples therapy, psychoeducational approaches and supportive therapies.

Since one of the major challenges encountered in these patients is low motivation, consensus exists about the importance of motivation interviewing in these patients.^{65,66} Motivational interviewing is 'a person-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving

Table 2: Psychotropic medications in management of psychosis and substance use disorders.

Medication	Efficacy	Salient features
Disulfram	<ul style="list-style-type: none"> Effective in schizophrenia & coexisting alcohol dependence^{55,56} 	<ul style="list-style-type: none"> Risk of inducing psychosis^{49,50} Toxic effect of chlordiazepoxide and diazepam may be increased. Intensity of disulfram alcohol reaction may be increased by chlorpromazine & decreased by diazepam.
Naltrexone	<ul style="list-style-type: none"> Effective in schizophrenia with coexisting alcohol dependence^{55,56} 	<ul style="list-style-type: none"> No significant interactions with antipsychotics
Clonidine	<ul style="list-style-type: none"> No systematic evidence 	<ul style="list-style-type: none"> Antipsychotic given concurrently may provoke orthostatic hypotension.
Buprenorphine	<ul style="list-style-type: none"> No systematic evidence 	<ul style="list-style-type: none"> Metabolized through CYP3A4, where antipsychotics and other medications act
Methadone	<ul style="list-style-type: none"> No systematic evidence 	<ul style="list-style-type: none"> Metabolized through CYP3A4, where antipsychotics and other medications act
Baclofen	<ul style="list-style-type: none"> No systematic evidence 	<ul style="list-style-type: none"> Increases sedation with sedating antipsychotics like olanzapine and clozapine, may cause respiratory depression May cause psychosis⁴⁸
Antipsychotics	<ul style="list-style-type: none"> Reports suggest clozapine is effective in reducing substance use in schizophrenia. Other atypical antipsychotics also suggested to reduce substance use. Atypical may be better than typical antipsychotics^{53,55,56} 	<ul style="list-style-type: none"> Concurrent use of clonidine or benzodiazepines given for withdrawals may increase sedation. Sudden smoking cessation may cause significant increase in clozapine level. Clozapine can cause respiratory arrest when used along with alcohol or opioids. Syncopal episode with cocaine when taken over clozapine⁴⁵

ambivalence'.⁶⁷ It has been found superior to standard care in a blinded RCT and the effects persisted for a year.⁶⁸ Motivational interviewing was also superior to standard care in terms of abstinence from substances at 6 months post intervention.⁶⁹

CBT in these patients focuses on relapse prevention as described by Marlatt and Gordon,⁷⁰ and includes identifying high risk situations, coping with high risk situation,

managing craving, life style modification and increasing self efficacy. CBT has also been used to cater to psychotic symptoms.⁷¹ In patients with primarily psychotic disorders and substance use, CBT either alone or in combination with MET was shown to reduce the amount and frequency of substance use.⁷²⁻⁷⁵

Contingency management is utilized to promoting abstinence by linking abstinence to rewards in the form vouchers, material prizes,

clinic privileges, or cash. This approach showed increased abstinence rates in the community settings,⁷⁶⁻⁷⁸ and group interventions.⁷⁹⁻⁸¹ Family intervention, especially of longer duration, reduced psychotic symptoms and substance use in dual diagnosis patients.⁸² Nidotherapy, a collaborative treatment involving systematic assessment and modification of the environment to minimize the impact of mental disorder on the individual or society, was associated with reduced hospital bed occupancy in dual diagnosis of substance use and psychosis.⁸³

In patients with psychosis and substance use disorders, the techniques need to be modified. Assuming a non-confrontational stance, taking into account cognitive difficulties and thought disorder and addressing low motivation may significantly help in the management. Support groups should focus on both the problems; targeting only substances misuse may not solve pressing issues of the patient.⁸⁴ Non-engagement in these psychotherapeutic modalities, however still remains lower than what would be considered optimum.⁶⁸

Conclusion

Comorbid psychosis and substance use disorders present unique difficulties in management. Diagnostic difficulties, poor motivation, medical comorbidities and social isolation are common. Emphasis needs to be laid upon detailed assessment of these patients before formulating a management plan. Pharmacological interactions between the medications prescribed and with the substance of abuse should be taken into consideration. Modification in the psychotherapeutic approaches must be considered in dealing with this set of patients. Further large scale studies need to be conducted to bolster the evidence base for these disorders, so that patient outcomes could be improved.

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