

Clinical Implications of the Co-Occurrence of Substance Use and Other Psychiatric Disorders

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The co-occurrence of substance use and psychiatric disorders is the rule rather than the exception in mental health and substance use treatment settings across the United States. Such co-occurrence may call for special assessment and evaluation procedures, modified treatment plans, and specialized follow-up. Treatment of co-occurrence of substance abuse and psychiatric disorders requires more cross-disciplinary collaboration; greater integration of substance use, mental health, and social services treatment approaches; and modifications in the training of care providers.

Only approximately 20% of all psychiatric conditions exist in their pure form; almost 80% exist in tandem with at least one other psychiatric disorder (Kessler, 1995). Much of the co-occurrence of disorders is accounted for by the co-occurrence of substance abuse or dependence disorder and another psychiatric disorder. The great frequency of, and the special needs presented by, such co-occurrence may have profound implications for the assessment and treatment of individuals presenting with these problems. This article provides an epidemiological overview of this phenomenon and the clinical implications of such co-occurrence for practicing psychologists.

Epidemiological Overview

Coexistence rates for psychiatric and substance use disorders have been reported to range from 25% to 58% (Alexander, Craig, MacDonald, & Haugland, 1994; First & Gladis, 1993; Lehman, Myers, Corty, & Thompson, 1994; Miller, Belkin, & Gibbons, 1994; Regier et al., 1990; Zimberg, 1993). These co-occurrence rates are consistently higher than substance use disorder rates of 15% to 18% and psychiatric disorder rates of 19% to 30% reported in the general population (First & Gladis, 1993). Indeed, Primm (1992) indicated that the presence of a mental disorder nearly triples the likelihood of the presence of a substance use disorder (2.7 to 1).

As some of the largest differences in the overall estimates of co-occurrence stem from different rates for different subgroups of psychiatric patients, breakdowns by psychiatric diagnosis have been examined. Such studies have either focused on single psychiatric syndromes or have surveyed general psychiatric set-

tings, cutting across diagnostic categories. For example, T. A. Brown and Barlow (1992) estimated a 15% to 25% co-occurrence rate of substance abuse among patients presenting with symptoms of anxiety. Newman and Gold (1992), in an inpatient eating disorders setting for women, revealed co-occurrence of substance abuse and eating disorder in 39% of cases. Findings of studies surveying more than one psychiatric disorder are shown in Table 1.

With regard to individuals in substance abuse treatment programs, co-occurrence rates differ depending on drug of choice. For example, rates for mental illness range from 51% to 84% in studies not specifying drug of choice (Miller, 1995; Primm, 1992; Ross, Glaser, & Germanson, 1988; Sloan & Rowe, 1995; Zimberg, 1993); from 55% to 62% for alcohol as drug of choice (Blow, Loveland Cook, Booth, Falcon, & Friedman, 1992; Penick et al., 1994); and above 70% for cocaine as drug of choice (Halikas, Crosby, Pearson, Nugent, & Carlson, 1994; Ziedonis, Rayford, Bryant, & Rounsaville, 1994). Overall, as compared to the general population, substance abusers are 21 times as likely to have an antisocial personality disorder, 6.2 times as likely to have a bipolar disorder, 4 times as likely to have schizophrenia, and over 2 times as likely to have a panic disorder (Helzer & Przybeck, 1988). Differences also emerge with regard to types of psychiatric syndromes that manifest among drug users. For example, posttraumatic stress disorder (PTSD) has been identified as common among drug users of both genders (cf. P. J. Brown & Wolfe, 1994; Cottler, Compton, Mager, Spitznagel, & Janca, 1992), with co-occurrence rates of 35% and 46% among male veterans (Brief, Weathers, Krinsley, Young, & Kelley, 1992; McFall, Mackay, & Donovan, 1991) and 40% among female drug users (Kovach, 1986). With regard to Axis II co-occurrence, it has been reported that over 70% of cocaine abusers had a concurrent diagnosis of personality disorder, with Cluster B diagnoses most common (53%), followed by Cluster A (28%), and Cluster C (24%; Kranzler, Satel, & Apter, 1994; Marlowe et al., 1995). On the other hand, opiate abusers had a slightly lower co-occurrence of personality disorders (40%; Rousar, Brooner, Regier, & Bigelow, 1994). Data by drug of choice and lifetime psychiatric syndrome are reported in Table 2.

When examining these prevalence rates, it is important to

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Table 1
*Substance Abuse or Dependence Rates for Diagnostic Subgroups of Psychiatric Patients as Reported
 by Separate Investigations of Co-Occurrence*

Variable	Walker, Howard, Lambert, and Suchinsky, 1994	Miller, Belkin, and Gibbons, 1994	Regier et al., 1990	Alexander, Craig, MacDonald, and Haugland, 1994	Westermeyer, Tucker, and Nugent, 1995
Demographics					
Time of diagnosis	at discharge	at admission	lifetime	within 6 months	3 weeks of sobriety
Method of diagnosis	ICD-9	DSM-III-R	DIS DSM-III-R	subjective	interview
Type of population	VA medical center	psych. inpat.	community-wide	psych. inpat.	psych. inpat.
Gender	men only	men and women	men and women	men and women	men and women
Psychiatric disorder					
Major depression	7.3%	31%	27.2%	6.12%	—
Dysthymia	—	8%	31.4%	—	—
Schizophrenia	3.4%	4%	47.0%	34.7%	—
Schizoaffective	—	8%	—	—	—
Psychotic NOS	—	8%	—	—	—
PTSD	5.2%	—	—	—	—
Panic disorder	—	4%	35.8%	—	—
Anxiety disorders	—	—	23.7%	—	5.6%
Bipolar disorder	2.2%	16%	60.7%	—	—
Neurosis or other	1.2%	—	32.8% (OCD)	8.16%	—
Adjustment disorder	—	4%	—	—	—
Personality disorder	9.7%	64%	—	12.24%	—
Borderline	—	21%	—	—	—
Antisocial	—	13%	83.6%	—	—
NOS	—	66%	—	—	—

Note. ICD-9 = *International Classification of Diseases* (9th ed.); DSM-III-R = *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed., rev.); DIS = Diagnostic Interview Schedule; VA = veterans affairs; psych. inpat. = psychiatric inpatients; NOS = not otherwise specified; PTSD = posttraumatic stress disorder; OCD = obsessive compulsive disorder. Dash indicates that data were not obtained.

note that the rates are inconsistent across studies and to consider the variables that may explain these inconsistencies (e.g., Helzer & Przybeck, 1988; Westermeyer, 1993). For example, co-occurrence rates derived in outpatient settings are generally lower than those derived in inpatient settings (Haugland, Siegel, Alexander, & Galanter, 1991; Narrow, Regier, Rae, Manderscheid, & Locke, 1993). For psychiatric hospital populations, co-occurrence rates of 40% have been reported; for prison settings, co-occurrence rates are reportedly exceptionally high: 70% to over 90% (Regier et al., 1990). Age, gender, and ethnicity are three other variables that affect co-occurrence rates. For age, Moos, Mertens, and Brennan (1993) found that co-occurrence rates for drug users varied significantly by age. They found the highest overall co-occurrence rates for the 35- to 54-year-olds (41%) followed by 18- to 34-year-olds (40%); 55- to 64-year-olds and those older than 65 reported the lowest rates (28.9% and 28.7%, respectively). This age pattern held only for anxiety and depressive disorders. For organic brain syndrome and paranoia, the over-65 group had the highest co-occurrence rate (8% and 2%, respectively); for schizophrenia and antisocial personality disorder, the youngest group (18 to 34) had the highest co-occurrence (14% and 17%, respectively). Relative to gender, co-occurrence rates for cocaine abusers reported by Marlowe et al. (1995) revealed no gender differences with regard to Axis I disorders, but the rates did reveal that women were more likely than men to have a concurrent borderline personality and that men were more likely than women to carry a narcissistic or antisocial personality disorder diagnosis. Halikas et al. (1994) found significant gender differences among

cocaine abusers for all comorbid disorders, with women having higher rates on all diagnoses except antisocial personality disorders.

Although not as widely considered, ethnic differences in co-occurrence rates have also been reported. For example, Ziedonis et al. (1994) reported significant differences between White and African American cocaine abusers with regard to lifetime rates of major depression (45% of Whites vs. 30% of African Americans), suicide gestures or attempts (27% vs. 13%), current diagnosis of phobias (9% vs. 17%), current and lifetime rate of alcohol dependence (38% and 79% vs. 15% and 38%), attention deficit disorder (39% vs. 27%), and conduct disorder (53% vs. 35%). Kosten, Rounsaville, and Kleber (1985) found similar significant lifetime rate differences between Whites and African Americans with regard to major depression (61% of Whites vs. 46% of African Americans), phobias (6% vs. 13%), and alcohol dependence (39% vs. 30%). Finally, Native Americans have been reported to be particularly overrepresented with regard to substance use disorders and affective disorders (cf. Booth, Blow, Loveland Cook, Bunn, & Fortney, 1992; Wilson, Civic, & Glass, 1994).

Research procedures and design (e.g., instrument of choice, psychometric properties of assessment tools, timing of diagnosis) have also contributed to the inconsistencies in co-occurrence rates. Most important, the following problems have been identified with some consistency: (a) timing of the assessment, (b) current versus lifetime rates, and (c) assessment issues (including definitions of co-occurrence and psychometric properties of assessment tools). With regard to timing, Westermeyer,

Table 2
Rates for Diagnostic Subgroups of Drug-Using Patients by Drug of Choice as Reported by Separate Investigations

Variable	Ziedonis, Rayford, Bryant, and Rounsaville, 1994	Halikas, Crosby, Pearson, Nugent, and Carlson, 1994	Kosten, Rounsaville, and Kleber, 1985	Ross, Glaser, and Germanson, 1988	Penick et al., 1994	Blow, Loveland Cook, Booth, Falcon, and Friedman, 1992
Demographics						
Drug of choice	cocaine	cocaine	heroin	not specified	alcohol	alcohol
Time of diagnosis	5 days of sobriety	at intake	not specified	4.5 days postadmittance	after detoxification	varied
Method of diagnosis	DSM-III-R, lifetime	DIS, lifetime	DSM-III, lifetime	DIS, lifetime	DSM-III, lifetime	DSM-III, current
Type of population	in- and outpatients	outpatients	in- and outpatients	all types	inpatients	outpatients
Gender	men and women	men and women	men and women	men and women	men only	men only
Psychiatric disorder						
Major depression	33.4%	23%	54.0%	24.3%	36.4%	8.3%
Dysthymia	12.3%	11%	8.6%	17.0%	—	3.7%
Schizophrenia	<1.0%	—	1.0%	7.4%	3.2%	13.8%
Schizoaffective	1.6%	—	1.0%	—	—	—
Other psychotic	—	—	—	0.3%	—	—
PTSD	—	27%	—	—	—	7.9%
Panic disorder	2.8%	6%	1.5%	—	9.5%	—
Generalized anxiety disorders	7.1%	3%	6.2%	10.0%	6.7%	7.7%
Phobias	14.0%	34%	4.6%	51.6%	6.7%	—
Bipolar disorder	17.6%	2%	<1.0%	36.7%	16.6%	4.9%
Conduct disorder	46.1%	—	—	1.9%	—	—
Attention deficit	34.4%	—	—	—	—	—
Gambling	17%	12%	—	5.7%	—	—
Personality disorder	—	—	—	—	—	—
Antisocial	33.2%	40%	25.21%	46.9%	24.0%	11.4%

Note. DSM-III-R = Diagnostic and Statistical Manual of Mental Disorders (3rd ed., rev.); DIS = Diagnostic Interview Schedule; DSM-III = Diagnostic and Statistical Manual of Mental Disorders (3rd ed.); PTSD = posttraumatic stress disorder. Dash indicates data were not obtained.

Tucker, and Nugent (1995) pointed out that unless a certain length of sobriety has been achieved by the patient, it is impossible to tease out whether psychiatric symptoms are merely side effects of the substance use and intoxication or symptoms in their own right. In a similar manner, withdrawal symptoms can often mimic symptoms of other psychiatric disorders and, hence, be mistaken for co-occurrence (Zweben, Smith, & Stewart, 1991). Regarding current versus lifetime rates, it has been pointed out that comparison of co-occurrence rates established by different investigations is difficult as some researchers restrict their assessment to either one or the other, despite the fact that both are critical. Taking a look at some of the differences found in current versus lifetime rates in the same study provides a salient reflection of the gravity of error obtained by not specifying whether a study measured current or lifetime rates. For example, Ross et al. (1988) found current rates of 26% for generalized anxiety disorders among drug users as compared to 52% lifetime rates. Ziedonis et al. (1994) reported a current rate of 5% for major depression among cocaine abusers as compared to a lifetime rate of 30% to 45% (depending on ethnicity). In a similar manner, Halikas et al. (1994) reported current rates of 18% for PTSD among cocaine abusers as compared to lifetime rates of 27%.

With regard to assessment issues, types of assessment have varied greatly across studies and have reduced the comparability of findings (cf. Marlowe et al., 1995; National Institute on Alcohol Abuse and Alcoholism, 1991). One set of researchers used multiple tools to assess co-occurrence and found considerably different rates depending on which instrument they used, with concordance rates below 80% and in some cases as low as 23% (Saxon, Calsyn, Stanton, & Hawker, 1994). In a related issue, definitions of co-occurrence have been vague, with some researchers defining it as having ever received treatment at substance abuse and psychiatric settings, some relying on subjective clinical interviews to make *Diagnostic and Statistical Manual of Mental Disorders (DSM)* diagnoses, and some relying on self-report measures and cut-off criteria for diagnostic purposes (cf. Lehman et al., 1994). Shortcomings of self-report and other assessment tools have also affected co-occurrence rates, as has the use of specific classification systems (e.g., 4th ed. of *DSM* [American Psychiatric Association, 1994] vs 3rd ed. of *DSM* [American Psychiatric Association, 1980] vs. ICD-9; Rounsaville, Bryant, Babor, Kranzler, & Kadden, 1993).

Consequences of the Co-Occurrence of Substance Use and Other Psychiatric Disorders

Co-occurrence has a high cost for society, both fiscally and socially. Comorbid individuals place a greater economic burden on their families, receiving an average of \$9,703 to \$13,891 per year from family members (as compared to non-comorbid adult children who receive approximately \$2,421 to \$3,547; Clark, 1994). Productivity losses attributable to co-occurrence in 1988 were estimated at \$273.3 billion; associated health care cost exceeded \$66 billion; and 5% of all health research support went toward co-occurrence research (Riley, 1994). Comorbid patients represent almost two-thirds of all visits to general medical, specialty, volunteer, and self-help group services (Narrow et al., 1993). Alcoholics with psychiatric symptoms have greater

symptom severity and, hence, seek more treatment; they also report greater distress, more social problems, more trouble keeping jobs, poorer level of functioning overall, and less satisfaction with family relationships (Blow et al., 1992; Dixon, McNary, & Lehman, 1995; Miller, 1995; Schmidt, 1992).

Co-occurrence is related to more difficult course of treatment, poorer treatment outcome, greater rates of hospitalization, shorter hospital stay, poor medication compliance, faster relapse, higher rates of criminal and suicidal behavior, chronicity, and decreased treatment compliance (Cornelius et al., 1995; Kessler, 1995; Lyons & McGovern, 1989; Ries, Mullen, & Cox, 1994; Weiss, Mirin, & Frances, 1992). It poses numerous challenges to treatment planning, especially in settings where the focus is either on substance use or psychiatric symptoms (Miller, 1995). As the latter is the predominant reality (e.g., according to Haugland et al., 1991, only 5 of 88 psychiatric hospitals in the state of New York provide specialized services for the dually diagnosed), comorbid patients often receive inappropriate care while in treatment and poor aftercare following discharge.

Given these problems encountered in the treatment of comorbid patients, several people have called for specialized treatment services for this population (e.g., Clement, Williams, & Waters, 1993; Galanter, Egelko, Edwards, & Vergaray, 1994) as well as for more consistent assessment of psychiatric symptoms in substance abuse settings and vice versa (V. B. Brown, Ridgely, Pepper, Levine, & Ryglewicz, 1989; Chappel, 1993). The importance of considering comorbid psychiatric symptoms when treating patients for substance abuse was underscored by Carroll, Nich, and Rounsaville (1995), who found that when treatment for depression was added to substance use treatment, cocaine abusers with depressive disorders actually had better treatment retention and outcomes than cocaine abusers without such co-occurrence.

Guidelines for Clinical Practice With Comorbid Patients

Assessment

Given that the data provided herein indicate that co-occurrence is the rule rather than the exception in psychiatric inpatients and substance abuse settings (cf. Kessler, 1995), it becomes extremely important that such treatment sites place extensive focus on the evaluation of patients to make diagnosis of co-occurrence more reliable and valid. In both psychiatric and substance use settings, missed diagnoses and misdiagnoses are a common problem for comorbid patients (El-Guebaly, 1990). This problem occurs in part because neither setting is prepared to deal with symptoms that are viewed as being under the purview of the other setting (see the section titled *Delivery Systems*). Furthermore, misdiagnosis of co-occurrence can also occur when clinical staff fail to differentiate between symptoms and syndromes (Ziedonis, 1992). In other words, a patient in a substance abuse setting may evidence depressed mood without having a diagnosable depression. However, lack of familiarity with psychiatric diagnosis or inadequate attention to assessment may result in an inappropriate diagnostic label of major depression.

Misdiagnosis can also occur when substance use or its sequelae result in symptoms that appear psychiatric in nature.

To be specific, substance use disorders can have symptoms that mimic psychopathology, particularly affective disorders (Mirin, Weiss, Michael, & Griffin, 1988), anxiety disorders (Schuckit & Monteiro, 1988), and psychoses (Zweben et al., 1991). For example, toxic symptoms of prolonged alcohol, stimulant, inhalant, and hallucinogen use may result in psychotic-looking states that can be misdiagnosed as a dual diagnosis. The most commonly cited example of this is paranoia secondary to cocaine abuse (Zweben et al., 1991). Sustained alcohol or opiate intoxication can result in depression and irritability secondary to central nervous system depressant functions (Schuckit & Monteiro, 1988). Acute and prolonged withdrawal symptoms from several drugs can mimic affective disorders; for example, protracted withdrawal from cocaine can result in symptoms identical to a major depression after as many as 12 weeks of sobriety (Horton, 1995). Substance-induced organic brain symptoms are sometimes misunderstood as psychotic symptoms. For example, alcohol hallucinosis may be misdiagnosed as schizophrenia; amphetamine-induced delusional disorders may be misunderstood as paranoid schizophrenia because both auditory hallucinations and paranoid ideation are part of the picture; and methadone withdrawal may result in an organic affective syndrome that is often confused with major depression (Mirin et al., 1988; Zweben et al., 1991).

In other words, a plethora of symptoms have to be carefully evaluated regarding whether they are manifestations of use, intoxication, acute withdrawal, protracted withdrawal, or organic-neurological consequences of drug addiction versus an underlying or additional, independent psychiatric disorder that is not substance induced (Mirin et al., 1988; Ries, 1994). Such careful teasing-out of drug-induced versus independent psychiatric disorder (Good, 1993) is critical to reliable and valid diagnosis of co-occurrence. It is best achieved by delaying testing and assessment for a time period sufficient to allow for substance-related and substance-induced symptoms to have run their course. Although consensus exists in the literature that such a delay is essential, the length of the interval of delay appears somewhat less clear. Suggestions range from 4 weeks to 3 months (e.g., American Psychiatric Association, 1994; Ziedonis, 1992). The decision is perhaps best made with a given client in mind because drug of choice, more than anything, will determine the appropriate waiting period for final diagnosis (e.g., protracted cocaine abuse may require a 3-month waiting period, whereas an acute hallucinogen-abusing individual may be successfully diagnosed after 2 weeks).

The second issue to consider when assessing co-occurrence is primacy or relationships of disorders. Etiologically speaking, several possibilities exist. The first set of possibilities has to do with cause and effect: Is one disorder the cause of the other, and, if so, which disorder is primary (i.e., did a psychiatric disorder cause substance abuse, or did substance abuse result in psychiatric disorder)? The second deals with the possibility of an interaction or independent coexistence of substance use disorder and another mental illness (Miller, 1995). In this case, the examiner must consider the possibility that a substance use disorder may exist that mimics psychiatric disorder, that substance use disorders may mask other psychiatric symptoms, and that psychiatric disorder can mimic behaviors more commonly associated with substance use disorder (Ries, 1994).

To address the issue of primacy of disorder (Chiauzzi, 1994; Miller, 1995), the clinician needs to collect a thorough family drug and psychiatric history (Kessler, 1995) as well as information on onset of substance use and psychiatric symptoms. These data can then be used to make a determination about the most likely scenario of the coexistence of the two psychiatric disorders, using a procedure suggested by First and Gladis (1993). These researchers indicated that the following criteria can be used in combination to determine primacy of the substance use disorder: (a) Substance use symptoms precede psychiatric symptoms in terms of lifetime onset; (b) family history of substance use symptoms is more frequent and more pronounced than family history of psychiatric symptoms; and (c) abstinence resolves the psychiatric symptoms. Primacy of the psychiatric diagnosis is similarly determined by meeting the following three criteria: (a) Psychiatric symptoms precede substance use symptoms in terms of lifetime onset; (b) family history of psychiatric symptoms is more frequent and more pronounced than family history of substance use; and (c) resolution of psychiatric symptoms resolves substance use symptoms. With regard to the determination of an independent coexistence of substance use and psychiatric disorder, a determination can be made by evaluating the following criteria: (a) There was joint onset of substance use and psychiatric symptoms; (b) family history of both substance use and psychiatric disorder or neither; and (c) resolution of one set of symptoms without change in the symptomatic picture of the other.

To facilitate the process of determining primacy and independence, a time line of symptoms should be developed to determine which symptoms (psychiatric or substance use-related) appeared first. Such a timeline can be provided by the patient but should be corroborated through interviews with persons who have been familiar with the patient over the course of several years (such as family members, long-term friends, or care providers). In addition, the patient is best tracked through direct observation over an extended period of time, taking a longitudinal approach to diagnosis (El-Guebaly, 1990). Such long-term tracking requires the collaboration of treatment staff who encounter the patient in one or several settings over the course of months or even years. Finally, family psychological-psychiatric and substance use history must be taken. Again, although this may be begun by consulting the patient, it is best corroborated through interviews with family members or others familiar with the patient's family. A time line is not only useful to the assessment of primacy but may also answer related questions. To be specific, it may assist the examiner in determining whether an acute or chronic substance use disorder caused the development of the other psychiatric disorder, whether it merely provoked the reemergence of psychiatric symptoms or a disorder that had occurred earlier in the lifetime of the client, or whether the substance use disorder worsened the severity of the psychiatric disorder. In a similar manner, the same relationships can be explored from the other direction, assessing whether the psychiatric disorder led to substance use (e.g., as a means of self-medicating), provoked the reemergence of prior substance use, or worsened the symptoms of existing substance use (Ries, 1994).

Related to the issue of primacy, but worth mentioning separately, is the issue of substance use as a means of self-medicating

a preexisting psychiatric illness (mentioned parenthetically in the previous paragraph). Many patients presenting with psychiatric and substance use symptoms may be easily identified as having a primary psychiatric diagnosis if it can be determined that the substance use served a function of reducing undesired emotional or behavioral states for the patient. For example, research shows a strong link between attention deficit disorder (ADD) and cocaine abuse (Horton, 1995; Mirin et al., 1988). To be specific, ADD patients are at "increased risk for abuse of stimulant drugs, including cocaine. In such patients, stimulants both reduce anxiety and help focus attention" (Mirin et al., 1988, p. 153). In a similar manner, manic episodes of a bipolar patient may be dealt with through increased alcohol intake (Schuckit & Monteiro, 1988), and opiates may be used to reduce psychotic symptoms (Zweben et al., 1991). Care must be taken not to overdiagnose substance use with psychotic disorders as even occasional (nonaddictive) amounts of alcohol or other drugs may worsen symptoms significantly (e.g., minor amounts of alcohol or stimulants can have a disorganizing effect on schizophrenic patients; Zweben et al., 1991).

In sum, in addition to using delayed, postwithdrawal assessment after 4 weeks to 3 months (e.g., Ross, Swinson, Larkin, & Doumani, 1994), clinicians must use multiple assessments that use many sources of assessment, such as self-report measures, structured interviews, family interviews, and long-term chart data (Nunes & Deliyannides, 1993). Family histories of psychiatric and substance use diagnoses and behavior patterns must become an integral part of the assessment of clients to identify correctly the primacy or independence of the disorders (Ziedonis, 1992). A final word of caution is also necessary with regard to assessment, especially as related to the definition of primacy versus independence or interaction of disorders. Given the complexity of possible relationships between the two sets of disorders, a confident and final decision regarding the definitive interaction of substance use disorders and other psychiatric disorders may not be always possible, even with the best effort at assessment that includes interviews, questionnaires, and time lines. Many clients with multiple diagnoses have a long history of unreliable psychiatric and substance use diagnoses that may be misleading to the clinician evaluating all collected data. Nevertheless, a concerted effort at accurate and comprehensive assessment needs to be made to arrive at the most reliable and valid diagnosis possible. Treatment implications of this diagnostic process and the diagnostic dilemmas presented by the comorbid client are addressed in the next section.

Treatment

The National Institute on Alcohol Abuse and Alcoholism (1991) pointed out that order of etiology (i.e., primacy of disorders) is critical to proper long-term treatment planning. This belief has been echoed by most clinicians writing about treatment of the comorbidly affected patient. As such, patients with a primary psychiatric diagnosis will have more traditional psychiatric treatment plans in which the alleviation of psychiatric symptoms is perceived as of prime importance. Although substance use symptoms must be addressed in this treatment plan, they are viewed as secondary to the psychiatric illness and some (though not complete) remission of the substance use disorder

is assumed upon alleviation of psychiatric symptoms. Patients with a primary substance use disorder will have a treatment plan that reflects sobriety as the prime outcome, with an assumption that psychiatric symptoms will see some (but not complete) relief once substance use is reduced or eliminated. Nevertheless, good comorbidly attuned treatment plans must cover both sets of symptoms. In other words, the issue is to make sure that both disorders are covered in a long-term treatment plan in terms of planned interventions, desired outcomes, aftercare, and follow-up, with appropriate emphasis and safety concerns.

It is important to note, however, that there is significant consensus among treatment providers and researchers that "the cause of symptoms does not affect the *acute* [italics added] treatment plan, but will [only] influence . . . long-term prognosis and treatment" (Ziedonis, 1992, p. 430). For example, regardless of primacy of diagnosis, emergency or crisis symptoms need to be dealt with directly. Suicidality secondary to alcohol-induced depression (as opposed to secondary to major affective disorder) must still be dealt with through appropriate crisis mental health interventions that adequately protect the patient (Schuckit & Monteiro, 1988). In a similar manner, detoxification support must be delivered for withdrawal symptoms regardless of primacy of psychiatric disorder. Furthermore, regardless of which disorder is secondary and primary, all symptoms need to be addressed in a patient's treatment plan. Only the emphasis of intervention and focus of desired outcomes will differ significantly depending on diagnosed primacy (Ziedonis, 1992).

Despite the attention that needs to be directed to primacy versus interaction of disorders and their implications for treatment planning, some constants emerge in the treatment of the comorbid patient that can be applied regardless of which disorder preceded the other or of the type of interaction the two disorders may manifest. To be specific, comorbid patients are best served through nontraditional programs that are neither entirely oriented toward substance use treatment, nor entirely oriented toward mental health treatment. Instead, the two approaches need to be integrated as well as modified significantly to serve the comorbid patient in the optimal manner possible.

A four-step process or framework has been suggested to guide the work with comorbid clients (cf. Ries, 1994). First, comorbid clients are more difficult to engage in treatment; hence, clinicians must take care to make treatment palatable to the comorbid patient, who may have experience with both pure mental health and pure substance use treatment systems. Such treatment engagement is best achieved with comorbid patients through a strong focus of treatment planning on the expressed needs of the patient, a personalized relationship with someone in the agency providing services, and treatment over an extended period of time. This approach differs from traditional systems of care delivery but works best with comorbid patients as related to the complexity of their presentation. Such an approach is described in detail in Namyniuk, Brems, and Clarson (1997).

The second tier in the framework presented by Ries (1994) is treatment continuity. Comorbid patients tend to have longstanding histories of disconnected treatment services, sometimes finding help in the mental health system and sometimes seeking services in the substance use system. Regardless of primacy of disorder, however, services provided to the comorbid patient need to be continuous across time and services. In other words,

they are best monitored by a single case manager (who also provides the treatment engagement services alluded to earlier by offering a personalized relationship), who ascertains that the client is monitored over time while moving through the various stages of treatment and who assures that the services offered to the client are compatible and logical in terms of sequencing and topic areas covered. An example of such treatment continuity is integrated aftercare services after a client is discharged from a residential program (cf. Namyniuk et al., 1997).

The third tier in the comorbid patient's treatment is that of treatment comprehensiveness. Clients with multiple psychiatric diagnoses generally have greater need for ancillary services that go above and beyond psychotherapy or substance abuse counseling. They are often in need of social support services, legal assistance, child care assistance and parenting advice, vocational rehabilitation, and career planning (also see comments following). Thus, treatment of the comorbid patient, regardless of whether the substance use or psychiatric disorder came first, needs to be multifaceted and wide-reaching, involving the collaboration of numerous types of service providers who work together in an integrated fashion (this issue relates back to treatment continuity and again can be monitored by the case manager, who stays with the client as she or he moves through treatment services).

The final tier described by Ries (1994) has to do with the phases of treatment a comorbid patient passes through. The phases largely depend on the unique needs of each patient who presents for treatment but mainly relate to specific needs as demanded by the level of acuteness of the patient's symptom presentation: Acute symptoms versus chronic presentations need to be addressed. Acute symptoms need to be considered (as mentioned earlier) directly and immediately and may involve the acute stabilization of psychiatric symptoms (e.g., psychotic symptoms or severe mood disturbances, such as mania or severe major depression) or the acute stabilization of substance use symptoms. The latter may need to be achieved through detoxification for patients with significant withdrawal symptoms. Acute stabilization may also occasionally be needed for related medical concerns that are particularly relevant to the comorbid patient. Once acute symptoms have been attended to, patients move into a subacute stabilization phase during which the most acute symptoms have been resolved and related symptoms may emerge and be addressed. It is the subacute phase that is often very telling about the relationship between the two types of disorders with which the client presents. Subacute stabilization may deal with depressive symptoms that may emerge as the client has successfully withdrawn from the abused substance; it may deal with flashbacks caused by chronic hallucinogen abuse after severe psychotic symptoms have been successfully treated. Furthermore, there is a range of symptoms that may need to be dealt with as clients have detoxified, such as insomnia, generalized anxiety symptoms, cravings, and relapse prevention.

Once the client has successfully progressed through the subacute phase of treatment, she or he can move into the long-term stabilization phase of treatment. During this phase, major shifts in treatment approaches may take place, depending on diagnostic and symptom presentation issues. The main focus, however, needs to remain on treatment continuity and comprehensiveness within an approach that remains maximally engaging for the

patient (Namyniuk et al., 1997; Ries, 1994). Long-term stabilization may rely on a number of interventions, including (but not limited to) support groups that are substance-use oriented (e.g., Alcoholics Anonymous or Narcotics Anonymous), psychoeducational groups that address both substance use and psychiatric issues (e.g., anger management, relaxation training; Ryglewicz, 1989), therapy interventions that deal with peripheral issues (e.g., parenting classes or family-couple therapy; Morris & Schinke, 1990), psychotherapy (individual or group) to deal with possible etiological factors (e.g., family dynamics, childhood abuse history; Evans & Sullivan, 1990), support services that address ancillary problems (e.g., legal advice, social work assistance; Chaneles & Pallone, 1990), or medication support (Zweben & Smith, 1989). Throughout this work with the comorbid patient, the clinician must continue the assessment process. Periodic reassessment through interviews and questionnaires may assist in narrowing down the most reliable diagnosis and can help monitor progress, both for the service provider and the client.

Above and beyond using the four-tiered treatment model for the comorbid patient, care providers also need to consider that neurological changes secondary to prolonged substance use may impair the patient's cognitive flexibility and judgment. Such cognitive processing changes may affect the patient's ability to understand certain treatment interventions and to overcome denial. Care needs to be taken that interventions reach the patient, that is, are tailored to the cognitive capacities and processing styles of the patient. In a similar manner, traditional confrontational approaches to substance abuse treatment can backfire with more vulnerable comorbid patients and, hence, may need to be modified significantly (Zweben, 1992; Zweben et al., 1991). A wide variety of alternative treatment systems has been developed for comorbid (as well as for strictly substance-use disordered) clients. Such approaches have transcended the traditional confrontational approach, recognizing the need for alternatives for subgroups of substance-using individuals (e.g., Morris & Schinke, 1990; Namyniuk et al., 1997; Sullivan, 1992). Such flexibility in treatment is critical but is often tied to treatment philosophies and may be subject to the treatment site that is responsible for the patient. Thus, it is not surprising that the treatment of the comorbid patient best takes place outside of traditional treatment structure (see following section titled *Delivery Systems*).

Another treatment issue has to do with medication (El-Guebaly, 1990; Zweben et al., 1991). Although the prescription of psychotropics remains outside of the realm of psychologists at this time, as potential case managers or primary therapists of comorbid patients, psychologists still need to have some basic insight about the special medication needs of the comorbid patient. It is beyond the scope of this article to go into detail on this topic, but a few examples may be helpful in pointing out the importance of tracking medication for comorbid patients. Even if the patient has a primary psychiatric disorder *other* than substance use, care providers must avoid prescribing drugs that (a) reinforce substance use (e.g., benzodiazepines have abuse potential and should be avoided even with secondary substance use), (b) precipitate relapse by inducing craving (e.g., preliminary research has shown that Prozac may need to be avoided with substance users as it may induce craving; Bachrach, 1995),

or (c) can become dangerous through drug interactions if relapse occurs (e.g., avoid monoamine oxidase inhibitors with alcoholic patients; Bachrach, 1995). Instead, drugs that may assist sobriety should be chosen if medication is viewed as an essential intervention (e.g., some neuroleptic drugs may actually assist in reducing craving; Bachrach, 1995).

An additional treatment consideration is the finding that co-occurrence is linked to a significantly greater number of life problems, such as social problems, difficulty keeping jobs, poor level of day-to-day functioning, and low satisfaction with family relationships (Blow et al., 1992; Dixon et al., 1995; Miller, 1995; Schmidt, 1992). Social problems of comorbid patients need to be addressed through proper case management services that may include assistance with obtaining social support services, such as Aid to Families with Dependent Children; Women, Infants & Children; and Supplemental Security Income. Employment difficulties need to be addressed through assisting comorbid patients with matters such as obtaining their general equivalency diploma, vocational aptitude and interest assessment, and vocational training opportunities. Poor day-to-day functioning needs to be addressed through treatment plans that attend to living skills, such as leisure time planning, financial management, health education, risk behavior reduction, and nutrition information. Family relationships need to be improved through involvement of family members in the treatment process or through referral of family members for treatment of their own. Finally, the clinician needs to pay special attention to the effect of a parent's co-occurrence on her or his children, and appropriate parenting education must be part of a comprehensive comorbid treatment plan (for detail, see Namyniuk et al., 1997; Sloan & Rowe, 1995; Stoeffelmayr, Benishek, Humphreys, Lee, & Mavis, 1989). Close collaboration with the criminal justice system may also be indicated (Chaneles & Pallone, 1990; Schmidt, 1992).

Delivery Systems

The best developed treatment plan that is based on the most appropriately designed and implemented assessment is doomed to failure if the setting in which implementation takes place does not have the flexibility and comprehensive nature that such a treatment plan requires. It is a fact that, in addition to the personal issues comorbid patients bring to treatment that result in poorer outcomes or prognoses, their situation is often further compromised by inflexible treatment delivery systems and services (Ries, 1994; Ziedonis, 1992). Arbitrary service divisions result in patients not being admitted to services in one agency because they also present symptoms for which another agency is deemed responsible. Lack of integration of services results in premature discharges for comorbid patients as they present with issues during treatment for which the agency has no clinical protocol and for which it cannot receive financial support from its funding source or reimbursement from its third-party payors (Ridgely, Goldman, & Willenbring, 1990). Such service boundaries are perpetuated by the fact that in more than 20 states, the alcohol and drug administration and the mental health administration are two completely separate and often competitive divisions of state government. This division of services is further exacerbated by the split at the federal level of separate agencies

for drugs (National Institute on Drug Abuse), alcohol (National Institute on Alcohol Abuse and Alcoholism), and mental health (National Institute of Mental Health; Ridgely et al., 1990).

To overcome these systemic barriers to treatment for the comorbid patient, at least two things must happen. First, at the administrative or governmental level, changes have to be made to allow for the integration and collaboration of mental health and substance use treatment agencies. Second, at the agency level, staffing decisions have to be made with integration of care and cross-training in mind (Ziedonis, 1992). At the community level, integration of care means collaboration among agencies. Ridgely et al. (1990) suggested a community-wide triage system in which all drug and mental patients are seen first, are comprehensively evaluated, and are then referred to the appropriate treatment sites. Such a triage system would refer the "pure" substance abuser to a substance abuse treatment site, the "pure" psychiatric patient to a mental health agency, and the comorbid patient to a combined service that integrates substance use and mental health treatment protocols. Such a combined service would eliminate artificial boundaries between mental health and substance use and would be based on a staffing pattern that considers all of the special treatment needs (as described earlier) of the comorbid patient. The triage site would also ensure that interagency tracking is possible so that patient outcome could be traced more carefully and used to adjust treatment programs as necessary if the outcome was not sufficiently positive.

This proposed service delivery model clarifies that the consensus among treatment providers for comorbid patients is that parallel treatment systems do not work for these patients. Instead, interdisciplinary, multidisciplinary, and integrated treatment is necessary. That means substance abuse has to be incorporated into mental health and vice versa, and the medical and social corollaries of both diagnoses must be addressed (Clement et al., 1993). Such integration of services needs to be done carefully and thoughtfully because mental health and substance use care delivery systems have traditionally been juxtaposed in terms of process and purposes (Bachrach, 1995; El-Guebaly, 1990). For example, whereas mental health care delivery is based in professional psychotherapy, substance use treatment has relied predominantly on peer counseling. Mental health systems tend to view drugs as helpful (i.e., psychotropic medications are prescribed to relieve psychiatric distress), whereas substance use treatment providers have viewed drugs of any sort as dangerous. In the mental health system, abstinence is a pre-condition to treatment; in the substance use treatment field, abstinence is the outcome of treatment. Mental health care providers insist that self-motivation by the patient is necessary and that prodding and follow-up with patients to assure treatment compliance is inappropriate; in the substance abuse treatment system, prodding and follow-up are expected and integral aspects of treatment if they make treatment work (Bachrach, 1995; El-Guebaly, 1990). In the mental health system, confrontation is used minimally and generally is not viewed as central to therapy; in the substance use setting, confrontation remains the central technique in many programs (Ries, 1994).

To summarize, researchers and published clinicians agree that treatment delivery systems for comorbid patients cannot succeed unless administrative and staffing changes occur that result in a

flexible, integrated system of care provision. Services must be multifaceted, with appropriate sensitivity to mental health and substance use issues, and they must be supported by a range of social services that can assist the comorbid patient with the many life problems encountered. The cornerstone of such a system remains proper diagnosis and evaluation as well as long-term follow-up and assessment to track both the appropriateness of the initial diagnosis and of the interventions chosen with a given patient.

Training

The type of service integration discussed earlier presumes and relies on treatment staff who are aware of cross-disciplinary issues that arise in the treatment of the comorbid patient. Integrated services cannot become a reality unless policymakers and care providers become familiar with co-occurrence and make informed decisions about administrative and treatment issues. It follows that training programs need to address the issue of co-occurrence and must make concerted efforts at teaching the assessment and treatment of the comorbid patient. Such education must include cross-disciplinary respect and collaboration (Chappel, 1993; Miller & Ries, 1991). It must emphasize and bring together a variety of modalities to make treatment effective and individually tailored and, hence, has to overcome turf issues of the professions involved (i.e., substance use, mental health, and social service care providers). Training programs must become more flexible and must endorse the type of combined substance use and mental health treatment approaches and philosophies that are necessary for the tailored care of the comorbid patient (Galanter et al., 1994; Namyniuk et al., 1997).

Such training must occur not only in graduate programs that train future care providers, but also must be conducted at existing facilities in which staff may encounter comorbid patients. Treatment staff in substance abuse programs need to be made aware of, if not trained in, psychological and psychiatric issues (e.g., they need to have the ability to use a *DSM*, be able to recognize the need for psychiatric emergency services, and be knowledgeable about the possible impact of psychopharmacological agents). In a similar manner, mental health care providers need to become more knowledgeable about substance use issues (e.g., recognize intoxication and withdrawal symptoms, be familiar with neurological effects of protracted use, and be capable of doing substance use assessments and screenings). Both systems need to recognize the importance of the other and must begin to pay attention to the larger social context surrounding the patient. Only then will care be maximized and outcomes improve.

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