

Preface

Addictive Disorders



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Guest Editors

Substance abuse involves the use of a substance despite persistent social, interpersonal, or other problems caused by the use of the substance. Substance dependence is a more severe disorder, which entails signs of physical or psychological tolerance or dependence. Substance use disorders are among the most common psychiatric disorders in the United States today. The associated morbidity and mortality are substantial. A recent survey found that 22 million individuals in the United States had current drug or alcohol abuse or dependence. Substance use disorders are related to approximately one of newly diagnosed cases of AIDS [1] and 550,000 annual emergency department visits [2]. Each year, there are about 100,000 deaths associated with alcohol consumption and 12,000 deaths associated with illicit drug use [3].

The co-occurrence of other psychiatric and medical disorders in individuals with substance use disorders is substantial and of critical importance for several reasons. More often than not, substance use disorders are complicated by other medical or psychiatric illnesses. Co-occurring disorders can alter the course of illness, prognosis, and recommended treatment for individuals with substance use disorders. As such, aggressive recognition and treatment of comorbidity is key. The articles in this issue address the important area of comorbidity in substance use disorders from several perspectives. The assessment of co-occurring disorders and new findings with regards to genetics, neurobiology, pharmacotherapeutic and behavioral treatments, and forensics issues will be presented.

Epidemiology

The National Survey on Drug Use and Health (formerly called the National Household Survey on Drug Abuse; NHSDA /NSDUH) is a yearly study conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA). Since 1971, the NSDUH has been a critical source of information about the incidence and prevalence of illicit drug, alcohol, and tobacco use in the United States. In 2002, the NSDUH found that 9.4% (22 million) of the US adult population had substance abuse or dependence issues. Of these, 3.2 million individuals had co-occurring drug and alcohol use problems; 3.9 million had illicit substance use abuse or dependence only, and 14.9 million had alcohol abuse or dependence issues only. Thirty percent of individuals in the United States (71.5 million) use tobacco products. Thirty million individuals over the age of 12 endorsed the nonmedical use of a prescription drug in 2002.

There are some interesting trends in substance use revealed through comparison of the NSDUH over the past few decades. Nonmedical use of prescription drugs has increased from approximately 600,000 individuals in 1990 to 2 million individuals in 2001. Amphetamine use has increased from 1% to 7%; marijuana use has increased from 6% to 15%, and heroin use has increased from 11% to 15% over the same period.

Two epidemiological surveys have emphasized the prevalence of comorbid psychiatric and substance use disorders in community samples: the National Institute of Mental Health Epidemiologic Catchment Area (ECA) Study [4] and the National Comorbidity Study (NCS) [5]. In the ECA study, an estimated 45% of individuals with alcohol use disorders and 72% of individuals with a drug use disorder had a least one co-occurring psychiatric disorder. In the NCS, approximately 78% of alcohol-dependent men and 86% of alcohol-dependent women met lifetime criteria for another psychiatric disorder, including drug dependence. Between 1995 and 2001, the percentage of individuals presenting for substance use treatment with serious mental illness has increased from 12 to 16%.

The most common psychiatric disorders associated with substance use disorders are mood and anxiety disorders, attention-deficit disorder, and antisocial personality disorder. It is also important to note that addiction to more than one substance is common among substance users. Nearly 35% of cocaine-dependent individuals also are estimated to be alcohol dependent [6].

Interest in the co-occurrence of the psychiatric and substance use disorders is clinically important, because comorbidity has been found to have a negative impact on the course, treatment outcome, and prognosis of both disorders. There are 17.5 million adults in the United States with serious mental illness, and individuals using illicit drugs are twice as likely to have serious mental illness compared with those who do not use illicit drugs. In terms of adolescents seeking treatment for substance use disorders, 49.5% said they felt depressed, and 19.5% had contemplated or had

attempted suicide immediately before seeking treatment [7]. As such, recognition of the overlap of psychiatric and substance use disorders is an important issue for appropriate, safe, and adequate treatment.

The burden of medical illness in substance-dependent individuals is underexplored. Several medical conditions requiring hospitalization are partly or wholly attributable to substance use disorders. Alcohol abuse and dependence can lead to liver disease, cardiomyopathy, hypertension, and several gastrointestinal (GI) disorders. There is a well-established link between illicit drug use, hepatitis C virus (HCV), and HIV. Intravenous drug use (IDU) accounts for 60% of new HCV infection and 20% to 50% of chronic HCV infection [8]. Approximately 80% of intravenous drug users will develop HCV antibodies after 1 year of drug use [9]. Approximately 25% of individuals with HIV are infected through IDU [10]. In a recent study of 470 alcohol- and drug-dependent individuals presenting for detoxification, 45% reported being diagnosed with a chronic medical illness, and 80% had prior medical hospitalizations [11]. Better understanding of the medical needs of the substance-dependent population could help to inform health care providers and policy makers.

Economic burden of substance use disorders

The estimated economic costs of substance use disorders are staggering. These costs include health care costs, costs of accidents and crime related to substance use and loss of productivity. In one study by the Lewine group, it was estimated that the total cost of drug and alcohol use in 1992 was 245.7 billion [12]. In a more recent SAMSHA study estimating substance abuse costs for 1998, the amount spent supporting treatment and prevention was estimated at \$7.466 billion. The amount spent treating medical consequences of substance use disorders was \$18.872 billion, and lost productivity was estimated at \$134.206 billion [13].

Screening and assessment

In 2002, President George W. Bush assembled a group called the New Freedom Commission on Mental Health and charged it with establishing a roadmap to guide the development of the mental health services over the next decade. The commission report emphasized the problem of co-occurring disorders [14]. It also stressed the importance of early detection and assessment of substance use and psychiatric disorders. The report emphasized that approximately half of the care for the most common psychiatric/substance use disorders is delivered in general medical settings [4,15,16]. Screening for both psychiatric and substance use disorders was recommended in several nontraditional settings, such as criminal justice settings, child welfare services, and homeless shelters.

Psychiatric and substance use disorders

The assessment of co-occurring psychiatric and substance use disorders can be challenging. As previously mentioned, the most common psychiatric disorders seen in individuals with substance use disorders are affective and anxiety disorders, attention-deficit disorder, and personality disorders. Pattern recognition of these common mental health problems is important. Depression and anxiety symptoms commonly occur together and often are masked by somatic symptoms or medical illness. Clinicians should have a high index of suspicion for affective or anxiety disorders when a patient complains of unexplained vague physical symptoms or sleep disturbance, does not respond to usual treatments, admits to substance misuse, or has a family history of psychiatric or other substance use disorder.

There are several psychiatric screening questionnaires available to help in recognition of psychiatric disorders. These include the Primary Care Evaluation of Mental Disorders [17], the Symptom Driven Diagnostic System for Primary Care [18], and the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition-Primary Care Version (DSM-IV-PC)* [19]. The *DSM-IV-PC* is an excellent source of information concerning psychiatric disorders for nonpsychiatrists. It includes discussions of epidemiology, primary care presentation, differential diagnosis, and assessment algorithms with step-by-step instructions for diagnosis.

Alternatively, screening tools specifically targeting depression and anxiety can be helpful in measuring severity or frequency of symptoms. Commonly used instruments include the Beck Depression Inventory (BDI) [20] the Hamilton Depression Scale (HAM-D) [21], the Hamilton Anxiety Scale (HAM-A) [22], and the Zung Self-Rating Depression Scale [23]. The HAM-D and HAM-A are clinician administered, and the BDI and Zung are self-administered questionnaires.

In screening for substance use disorders, the CAGE [24], the Michigan Alcoholism Screening Test (MAST) [25], the Alcohol Use Disorders Identification Test [26], and the Drug Abuse Screening Test [27] are useful. In a recent study, Westermeyer et al [28] modified the MAST to include drug use disorders and validated its use in a group of 520 outpatients. A clinical interview that includes questions about quantity and frequency of use in an empathic, nonjudgmental manner is still probably the best tool in diagnoses. Current and lifetime history of symptoms and problems should be assessed, including a family history of addictions and psychiatric disorders. Family or friends can provide invaluable information in establishing a diagnosis, evaluating the patient's environment and support system, initiating treatment, and establishing a treatment alliance.

Co-occurring substance use and medical disorders

The high co-occurrence of substance use disorders with several medical conditions has important implications for screening for substance use

conditions and medical conditions across several treatment settings. These issues will be discussed in detail later in this issue, but in primary care and emergency room settings, the presence of certain diseases/syndromes (ie, HCV, HIV, or hypertension/cardiomyopathy of unknown origin) or symptoms (anxiety, insomnia) should prompt exploration of substance use/abuse and dependence. Over the past 9 years, drug-related emergency department visits increased by 29%. The substance use disorder screens described can be used in the primary care or emergency department settings, but questions about substance use should be routine in evaluation. In many cases, aggressive treatment of substance use disorders may alleviate or prevent symptom progression.

In the substance abuse treatment setting, failure to screen for common medical comorbidities is often a result of lack of adequate resources or appropriate personnel. It is clear that drug and alcohol-dependent individuals are a vulnerable and underserved population with significant medical illness burden. Effective screening and intervention could decrease this public health burden substantially. For instance, screening and early intervention for sexually transmitted diseases and tuberculosis and vaccinations for hepatitis and pneumococcal disease could be valuable. Better linkage between substance use treatment settings and primary medical care will be essential in providing optimal treatment.

Diagnostic issues

The relationship between psychiatric symptoms and substance use is complex. Psychiatric symptoms in the context of substance use may be caused by the biologic effects of alcohol or other drugs, the psychosocial consequences of addiction, underlying personality traits, or the presence of coexisting psychiatric disorder. If the symptoms of depression, anxiety, psychosis, or mania are secondary to withdrawal, intoxication, or chronic use, they tend to be transient and remit with abstinence.

In establishing the presence of a coexisting psychiatric disorder in an individual with active substance use, the gold standard is to delay diagnostic assessment until a period of abstinence has been attained. This is often difficult to accomplish, particularly as inpatient hospitalizations are becoming less frequent and shorter. The length of abstinence necessary for diagnosis depends upon the psychiatric diagnoses under consideration and substance of abuse. A lengthy period of abstinence is more important in the diagnosis of some disorders as compared with others. In general, those disorders that have the most symptom overlap with withdrawal states (ie, depression, dysthymia, or generalized anxiety disorder) require the longest periods of abstinence for accurate diagnosis. On the other hand, disorders that have key symptoms not mimicked by withdrawal states (obsessive–compulsive disorder and social or specific phobias) can be diagnosed with greater confidence after shorter periods of abstinence. Some psychiatric

disorders can be mimicked by acute intoxication with certain substances (compulsive behaviors and cocaine use), but a provisional diagnosis can be made once the period of acute intoxication has passed. Once a provisional diagnosis has been made, it is important that the clinician continues to monitor for patient safety and changes in severity and number of symptoms during increasing periods of abstinence.

The substance abused also affects the assessment of comorbidity. The necessary drug-free period for diagnostic purposes can vary considerably depending on the half-life of the agent involved. The length of acute and protracted abstinence associated with specific drugs is generally a direct function of the half-life of the agent. As such, agents with long half-lives will require longer periods of abstinence before a psychiatric diagnosis can be made. In the case of stimulants, the half-life of cocaine is less than 1 hour and that of d-amphetamine is approximately 10 to 15 hours. For benzodiazepines, the half-life of diazepam is approximately 48 to 72 hours, and that of alprazolam is approximately 8 to 12 hours. For opiates, the half-life of heroin is approximately 2 to 3 hours, and that of methadone is approximately 15 to 40 hours. Individuals on methadone maintenance present a special case for psychiatric diagnosis, because they may remain on methadone for years. Generally, psychiatric symptoms and disorders are evaluated, diagnosed, and treated after the individual has reached a stable dosage of methadone rather than requiring withdrawal of the agent for diagnostic purposes. This principle also may apply to individuals who require chronic treatment with other agents that can produce psychiatric sequelae (ie, anticonvulsants, benzodiazepines, or other sedative–hypnotic/anxiolytics).

Summary

In conclusion, complex medical and psychiatric comorbidity is common in individuals with substance use disorders. It is important to assess comorbidity because of the implications for prevention and treatment. Studies of the neurobiology of substance use and psychiatric disorders are accumulating rapidly and informing treatment development. Information about the prevention and treatment of infectious diseases and other medical conditions associated with substance use disorders also is growing, and it is important that patients are able to benefit from this. The articles in this issue provide state-of-the-art information about several issues related to comorbidity in substance use disorders.

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