Anxiety And Substance Use Disorders: The Treatment Of High-Risk Patients

Mim J. Landry, David E. Smith, M.D., David R. McDuff, M.D., and Otis L. Baughman III, M.D.

Abstract: **Primary care physicians routinely treat patients with various anxiety disorders. These patients may have a substance use disorder or may be at high risk for abuse or addiction. Routine treatment of anxiety disorders with psychoactive drugs is successful in many patients, but it can lead to iatrogenic dependence in high-risk patients. This article describes addiction risk factors, drug pharmacodynamics, environment and environmental cues, and genetics. With these addiction risk factors in mind, the physician can apply a stepwise treatment protocol described in three progressive levels: conservative, nonpharmacological approaches; nonpsychoactive pharmacotherapy; and psychoactive pharmacotherapy. In addition, proper prescribing practices for high-risk patients are described in terms of diagnosis, dosage, duration, discontinuation, dependence, and documentation. (J Am Board Fam Pract 1991; 4:447-56.)**

The family physician is in a unique position to diagnose and treat anxiety and substance use disorders. The prevalence of clinically significant anxiety symptoms in a family practice setting was 20 percent in one study.[1] Indeed, physicians in the primary care specialties, which include family practice, general practice, internal medicine, and osteopathy, write two-thirds of all new prescriptions for antianxiety or anxiolytic medications.[2] Also, 10 percent of all adults entering a physician's office are likely to have a substance use problem.[3] These and other patients at high risk for substance use problems may respond to anxiolytic drugs with compulsion, loss of control, and continued use despite adverse consequences.

Addiction Risk Factors

Addiction is not a static event, but a dynamic disease process described by speed of onset and progression, disease severity,[4,5] and emergence likelihood. To effect desired anxiety treatment outcomes, addiction risk factors must be carefully considered, including the possibility of iatrogenic dependence on anxiolytics. Addiction risk factors can be grouped into three categories: (1) pharmacodynamics, (2) environmental factors, and (3) host susceptibility (Table 1).

Pharmacodynamic Risk Factors

Psychoactive drugs can be described in terms of addiction liability, which changes when other variables are manipulated.

Tolerance and Withdrawal

Chronic psychoactive drug use causes tolerance to the subjective and therapeutic effects of the drug and prompts dosage increases to recreate the desired effects. Depressants (e.g., alcohol and benzodiazepines) produce a well-recognized sedative-hypnotic type of physical dependence and tolerance. Drug cessation causes a classic withdrawal syndrome.[6] This anxiety-laden withdrawal syndrome is feared and avoided by further drug use.[7] Chronic use of stimulants (e.g., cocaine and amphetamines) can cause tolerance, while cessation produces a withdrawal syndrome[8,9] that includes depressive and agitated depressive symptoms.[10] The user avoids these symptoms by further stimulant use. The development of tolerance promotes dosage increases, whereas withdrawal avoidance promotes continued use.

Reinforcement

Drug use involves positive and negative reinforcement principles. Negative reinforcement

Submitted, revised, 8 July 1991.

From the Haight Ashbury Training and Education Project, San Francisco; Haight Ashbury Free Clinics, San Francisco; Division of Alcohol and Drug Abuse, Department of Psychiatry, University of Maryland School of Medicine, Baltimore; and the Family Medicine Residency Program, Spartanburg Regional Medical Center, Spartanburg, SC. Address reprint requests to Haight Ashbury Training and Education Project, 409 Clayton Street, San Francisco, CA 94117.

Table 1. Addiction Risk Factors.

Risk Factor Category	Specific Risk Factors
Pharmacodynamic	Affinity for developing tolerance
	Affinity for developing withdrawal
	Polydrug use
	Route of administration
	Secondary drug effects
	Amount and purity of drug
	Euphorigenic qualities of the drug
	Positive reinforcing qualities
	Negative reinforcing qualities
	Total drug combinations
Environmental	Environmental cues
	Drug availability
	Drug acceptability
	Set and setting of the drug use
	Drug experience versus naiveté
	Duration of use
	User expectations
	Social support network
Host susceptibility	Genetic predisposition to addiction
	Family history of abuse or addiction
	Personal history of abuse or addiction
	Physical and emotional health
	High psychic distress
	Dual diagnosis of psychiatric and drug use disorders

involves the termination of a noxious stimulus or situation. Self-medication that delays or prevents an unpleasant event (e.g., withdrawal) from occurring becomes reinforcing. Positive reinforcement involves strengthening the possibility that a certain behavior will be repeated,[11] through reward and satisfaction, as with drug-induced euphoria or drug-induced feelings of well-being.

Thus, the euphoria or feelings of well-being produced by a psychoactive drug are positively reinforcing, while drug use to avoid withdrawal symptoms or to avoid endogenous, negative mood states is negatively reinforcing. Both prompt continued use.[12]

Polydrug Use

Stimulant users typically use depressants (e.g., alcohol and benzodiazepines) to mitigate central nervous system overstimulation. By doing so, they inadvertently reduce the desired euphoric effects of the stimulant, thus causing a rapidly progressive consumption of both the stimulant and depressant.[13] Chronic ingestion of higher total drug doses prompts drug tolerance and increases the liability for addiction.

Secondary Drug Effects

Chronic psychoactive drug use promotes such subacute problems as prolonged sleep and food deprivation. Over time, clouded thinking, confusion, and paranoia can emerge. Without a thorough drug history, these drug-induced symptoms can be indistinguishable from those caused by other psychiatric problems. If the patient self-medicates to avoid these unpleasant symptoms, the symptoms will emerge after the masking drug (e.g., alcohol) is discontinued.

Route of Administration

Mood-altering drugs that cross the blood-brain barrier quickly and in high doses will be particularly euphoric and reinforcing. Thus, drug-delivery systems, such as smoking and parenteral use of crack and heroin, provide particularly euphoric and reinforcing experiences, promoting further use.

Environmental Risk Factors

Drug Availability

Drug use increases when drugs are more easily available or prevalent. For instance, anesthesiologists constitute 12 percent of physicians seeking addiction treatment, yet they represent only 3.6 percent of US physicians.[14] Anesthesiologists are greatly overrepresented among addicted physicians in part because they have ready access to the narcotic analgesics fentanyl and sufentanil.

Environmental factors influence whether a genetic vulnerability for addiction becomes manifest.[15] Age, culture, religion, employment, locale, academic background, and local and national drug trends all have an effect on drug use. Environmental factors influence the likelihood of drug use, the type of drugs consumed, and the route of drug consumption.

Environmental Cues

Drug-related cues are those people, places, and things that are strongly associated with drug use. These cues help to sustain drug use, increase drug craving,[16] and promote relapse. Associating drug use with reward and acting as reinforcers, cues can include music, drug-using associates, bars and restaurants, arguments, sex, and drug and sex paraphernalia.

Host Susceptibility

Genetic Influence

A person can inherit a vulnerability or susceptibility for becoming addicted.[17] For these persons, even casual contact with psychoactive drugs can produce rapid and profound substance use problems. Those without this genetic vulnerability can and do become addicted, but other risk factors must come into play.

Twin, family, and adoption studies have supported the contribution of the genetic factors in the development of alcohol addiction. By evaluating the rates of alcoholism in persons who were born to alcoholic biological parents, but reared by nonalcoholics, these studies help to clarify the role of genetics in developing alcoholism. Such studies can be summarized by noting that about 20 to 25 percent of the sons and about 5 percent of the daughters of alcoholics become alcoholic themselves,[15] rates four to five times greater than that found in the general population. What is inherited is not a guarantee of becoming addicted but, rather, varying degrees of susceptibility to addiction. In the area of genetics, alcohol research predominates over that of other drugs, and sons of alcoholics have been better studied than daughters.

Sons of alcohol addicts can have an inborn tolerance to alcohol. In comparison with other men, sons of alcoholics react less, are not as euphoric, and are not as tipsy after several drinks.[18] Other measurable differences include body sway, hormonal secretions,[19] and electrophysiological responses during a sober resting state and after intoxication for both alcoholic[20-23] and high-risk persons.[24-26] Lower sensitivity to mood-altering drugs probably influences the loss of control over intake. There seem to be at least two different types of alcohol addiction: one occurs to persons without a family history of alcoholism (nonfamilial), and another runs in families (familial or hereditary).[27]

Familial Alcoholism

For those with familial alcoholism, the disease develops at a younger age, has a rapid onset and progression, and is particularly severe and hard to treat.[28] Familial alcoholics often report a history of childhood behavioral problems, such as hyperactivity,[29] and they can be more antisocial and have had more criminal activities[30] than nonfamilial alcoholics, although this is still controversial.[31]

When compared with nonfamilial alcoholics with equally severe alcoholism, familial alcoholics perform more poorly on psychological instruments that test for brain damage.[32] The intensity of their reaction to alcohol is decreased, and they have less intense changes in several neurotransmitters following drinking, suggesting an inborn tolerance to alcohol.

Nonfamilial Alcoholism

Alcoholics who do not report a family history of alcoholism often have psychological or environmental stressors that prompt initial alcohol use and help to sustain an addiction. Stressors include such psychological problems as depression, anxiety, antisocial behavior, early dementia, essential tremor, polydrug abuse, and high situational stress.[15]

Stepwise Treatment of Anxiety for High-Risk Patients

Basic Principles

Within the context of this article, anxiety is approached as a cluster of symptoms that can exist either alone or as part of a more serious anxiety disorder. The primary care physician should be familiar with the specific diagnosis and treatment of panic disorder with and without agoraphobia, agoraphobia without panic, social phobia, simple phobia, obsessive-compulsive disorder, posttraumatic stress disorder, and generalized anxiety disorder (GAD). Although it is outside the scope of this article to describe specific treatment protocols for each anxiety disorder, the physician can incorporate the following principles when treating anxiety disorders:

During patient evaluations, the physician should routinely record a personal and family history of psychoactive drug use and addiction, because both are associated with poor psychoactive anxiolytic treatment outcome.[33,34] Even a correct therapeutic response with appropriate benzodiazepine therapy can result in benzodiazepine addiction.[35] Patients who have the dual diagnosis of a psychiatric and a substance use

Table 2. Anxiety Management: Stepwise Treatment.

Sequence	Management Approach*
1.	Nonpharmacological approaches
2.	Add nonpsychoactive, nondependence-producing medications
3.	Treat with psychoactive, dependence-producing medications

*Move to next management approach only if treatment fails.

disorder are considered high risk, as are those patients who have significant psychic distress.[15,36]

These high-risk patients can have distressing, inconsistent symptoms and complain of anxiety and depression. They might refuse full work-ups and seem intolerant of in-depth interviews and collateral contacts. If drug experienced, they may resist nondrug therapy, make pressured requests for specific medications, and refuse to follow through with the nonpharmacological aspects of treatment.[37] These high-risk patients are most likely to have problems with prescribed psychoactive medications and are more likely to (1) proceed from benzodiazepine use to physical dependence, (2) proceed from dependence to abuse or addiction, and (3) experience significant problems upon discontinuing the medication.[35] Nonpsychoactive alternatives to the benzodiazepines are strongly recommended for these high-risk groups.

Time constraints can cause the physician to prescribe psychoactive drugs for problems that may respond well to other strategies. Assessing the benefit-risk ratio is critical. We describe a three-step model for anxiety management that puts particular emphasis on the benefit-risk ratio. The basic principle underlying this model is that treatment should progress from conservative to aggressive rather than starting aggressively (Table 2).

Nonpharmacological Approaches

Depending upon the severity and dysfunction of the specific anxiety disorder, the physician should first consider nonpharmacologic anxiolytic methods. Because anxiety is subjective, the physician should become familiar with diagnostic tools to measure anxiety severity and intensity. The Zung Self-Rating Anxiety Scale is a practical anxiety rating instrument that can be easily used in a primary care setting.[38]

Nondrug techniques can be valuable for those with anxiety disorders who are uncomfortable but not dysfunctional. The physician can consult with or refer to specialists in psychotherapy, cognitive therapy, and behavioral therapy.[39] In behavioral therapy, for instance, anxiety is viewed as a conditioned response to threatening situations. Behavioral therapy reconstructs the patient's behavior to remove the undesirable response, such as panic.[40] Systematic desensitization is used to bring patients into gradual contact with the feared objects after they first relax.[41] Flooding or forced immersion also forces patients to confront the object in an effort to break down anxious defenses.

The physician can prescribe relaxation techniques, transcendental meditation, and biofeedback.[42] Relaxation techniques include progressive muscle relaxation, in which the patient systematically tenses and relaxes all muscle groups from toes to head, combined with deep breathing and soothing word or fantasy associations.

Transcendental meditation focuses on control over the involuntary mechanisms of the body, thereby helping the patient reduce a rapid heartbeat and normalize respiration and sweat gland activity. Similarly, biofeedback teaches the patient to control certain brain waves, blood pressure, pulse, and other body functions while learning to reduce the symptoms of stress and panic. In addition, the physician can recommend acupuncture, hypnotherapy, and stress management courses.[42] These techniques give patients practical tools to reduce overall anxiety and gain a level of mastery over their own lives.

Self-help groups (e.g., Emotions Anonymous) and professional therapy groups that address such issues as anger, anxiety, and relationships can help patients lower overall anxiety levels. Other self-help groups, such as Al-Anon and Nar-Anon, address the stress caused by a family member who has alcohol and drug problems.

As an adjunct, the physician can prescribe exercise or provide bibliotherapy by recommending books and audio and video tapes that teach stress reduction exercises and anxiolytic visualization techniques; these books and tapes are often available at local libraries. Aerobic exercise can be an important anxiolytic treatment adjunct.[43] Nonpharmacologic anxiolytic treatment, when properly selected and used, can reduce or eliminate anxiety without providing complications of their own. If these techniques fail, then the physician

should consider continuing these techniques but add nonpsychoactive anxiolytic treatment.

Nonpsychoactive, Nondependence-Producing Pharmacotherapy

Anxiety treatment options should be cooperative rather than competitive. For example, a patient can get some anxiolytic effect with aerobic exercise and group therapy but remain distressed. The physician should urge continued exercise and group therapy and prescribe a nonpsychoactive, nonmood-altering drug in addition. Examples of nonpsychoactive drugs include the tricyclic antidepressants, monoamine oxidase inhibitors (MAOIs), amino acids, propranolol, and buspirone.[44] The tricyclic antidepressants are as effective as benzodiazepines in treating panic disorder or GAD but can take longer to show results. Imipramine benefits approximately 65 percent of patients with panic disorder or agoraphobia.[45] When it can be tolerated by patients, and they can comply with the restrictions in diet and other medication, the MAOI phenelzine offers about 80 percent efficacy in panic disorder.[46] Adherence to a healthy diet including avoidance of caffeine should be stressed.

Amino acids, such as L-tyrosine and L-tryptophan, can provide assistance with moderate daytime anxiety and with sleep, respectively.[47] Typical dose recommendations include 1 to 2 g of L-tyrosine for daytime anxiety and 2 to 4 g of L-tryptophan for assistance with sleep.[48] Patients do better by taking L-tryptophan with a carbohydrate, such as orange juice, on an empty stomach about 30 minutes before going to bed. Milk should be avoided because the other amino acids compete for blood-brain transfer.

At this time L-tryptophan is temporarily banned by the Food and Drug Administration as a response to a contaminant that appears to have been a byproduct of the manufacturing process by the Showa Denko Company of Japan.[49,50] The contaminant causes peripheral eosinophilia, severe, incapacitating myalgia, and neuromuscular and cutaneous abnormalities, which the Centers for Disease Control named eosinophilia-myalgia syndrome (EMS),[51] a rare and sometimes fatal blood disorder. The case-report definition of EMS is (1) eosinophil count $> 1 \times 10^6$/L ($1000/mm^3$), (2) generalized, debilitating myalgia, and (3) no evidence of infection or neoplasm that would explain either the eosinophilia or the myalgia.[52] Signs and symptoms can include (1) pain and tenderness of the fascia, muscle, and joints; (2) erythema; (3) muscle weakness; and (4) peripheral eosinophilia.[53] Excluding the contaminated L-tryptophan product, amino acids are relatively safe, do not have a euphoric quality, and have low abuse potential.

Propranolol can be used to block the somatic components of some anxiety states, especially when autonomic symptoms predominate.[54] Such somatic symptoms include tremor, tachycardia, dizziness, excess sweating, and increased blood pressure.[40] Propranolol, however, will have an incomplete effect on other such symptoms as depersonalization, lightheadedness, imbalance, and hyperventilation.[55]

Propranolol is useful to alleviate short attacks of anxiety, such as during the 1- to 3-day episodes of anxiety and insomnia that can occur weeks or even months following benzodiazepine withdrawal.[6] It is also useful on an as-needed basis for anticipatory anxiety that occurs with situational phobias, such as public speaking,[40] claustrophobia, or agoraphobia.[56]

The azapirones (5-HT-1A agonists) are a new class of drugs that specifically treat anxiety symptoms without causing acute mood alterations. These agents are anxioselective in that they selectively treat the anxiety symptoms alone. Azapirones are noneuphorigenic, nonsedating, do not create acute mood changes or impair psychomotor performance, do not cause skeletal muscle relaxation, and lack the potential of benzodiazepines for abuse or addiction.[57] Azapirones directly treat the anxiety without the cluster of somatic and psychic side effects common with benzodiazepine anxiolytics.[58,59] There is no withdrawal upon abrupt cessation,[60] and there is no similarity to the benzodiazepines in site of action at receptors or in their rapidity of response or cross-tolerance to psychoactive drugs.[61]

Buspirone is an example of this new class of drugs. Buspirone does not produce euphoria, central nervous system depression, muscle relaxation, sedation, or psychomotor impairment.[57] Other azapirones are gepirone (Bristol-Myers), ipsapirone (Miles) and metanopirone (Pfizer). These drugs represent both a formidable treatment option and challenge to the physician.

Table 3. Anxiety Treatment Options.*

Treatment Categories	Specific Treatments
Nondrug treatments	Psychotherapy Cognitive therapy Behavioral therapy Relaxation skills Meditation Biofeedback Acupuncture Hypnotherapy Self-help groups Support groups Exercise Education
Nonpsychoactive, nondependence-producing drugs	Azapirones† Amino acids Beta blockers Tricyclic antidepressants (TCAs) Monoamine oxidase inhibitors (MAOIs)
Psychoactive, dependence-producing drugs	Benzodiazepines

*The physician should not consider anxiety treatment options as competitive (one versus the other). Rather, a serious attempt should be made to select from the less aggressive options first and then add the more aggressive treatment options to the existing conservative attempts. Thus, for the more severe anxiety problems, an option from each of the three categories could be used.

†Antidepressants (TCAs and the MAOIs) and azapirones, such as buspirone, all exert an effect upon long-term, but not acute, mood states. Thus, they are not properly considered to be mood altering or psychoactive.

The challenge of anxioselective medications ironically lies in their anxioselective action. Because patients (especially those who are benzodiazepine experienced) often equate anxiety reduction with central nervous system (CNS) sedation, and because anxioselective agents, such as buspirone, treat anxiety symptoms without CNS depression, the patient can complain of treatment failure. If this should be the case, patients must be educated about what nonpsychoactive medications will and will not do. The absence of CNS depression, sedation, and muscle relaxation, combined with a possible delay in symptom improvement, can cause the patient to "feel" that the medication is not working. The physician and patient must orient their evaluations of efficacy toward objective criteria rather than somatic and psychic expectations.

To evaluate the efficacy of nonpsychoactive medication, the physician can elicit specific examples of the patient's pretreatment problems and specifically investigate those problems during the treatment period. Rather than asking how the patient feels or whether the patient feels better, the physician can inquire about specific pretreatment symptoms as noted in the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R)*[4] or such related problems as (1) argumentativeness; (2) irritability; (3) worry and rumination; (4) concentration difficulties; (5) frustration tolerance and impulse control; (6) combativeness; (7) panic, fears, and nightmares; and (8) palpitations and dizzy spells, paying particular attention to both frequency and intensity.

It is particularly helpful when the spouse, companion, or family member can accompany the patient in subsequent visits to provide collateral information. In this way, the physician and the patient can measure genuine reductions in anxiety symptoms and not confuse treatment success with unrealistic expectations or anticipated side effects. It will also prevent even the best-intentioned physician from being deceived by patients.

Psychoactive, Dependence-Producing Psychopharmacotherapy

Rather than being the first line of treatment, psychoactive medications, such as the benzodiazepines, should be used as a last step, only if needed, especially if the severity of anxiety-related dysfunction is low or moderate. Anxiety symptoms should be measured objectively and recorded to note fluctuations, and this information should be corroborated by family members. In all cases, a balance between benefit and risk must be considered during treatment with psychoactive medications.

The dosage and duration of benzodiazepine therapy needs to be tailored to the specific diagnosis, with the understanding that the longer the drug is taken and the higher the dosage, the more likely dependence will develop. Table 3 outlines anxiety treatment options using the stepwise treatment of anxiety.

Proper Prescribing Practices

Physicians at Risk for Misprescribing

Primary care physicians who prescribe psychoactive medications, especially those who practice in a community that provides only limited resources for high-risk patients, can themselves be at risk for developing prescribing problems within their medical practice. Having few treatment alterna-

tives and a limited number of specialists for referral and practicing in isolation, the rural physician is particularly vulnerable not only to being overwhelmed with high-risk patients but also to overprescribing psychoactive medications. Consequences range from standing out on pharmacy audits to becoming involved in medicolegal problems.

There are four main groups of physicians at risk for misprescribing problems: (1) deceived physicians, who are unwittingly tricked by their patients into prescribing psychoactive medications; (2) dated physicians, who do not keep up with the medical literature and are unaware of appropriate prescribing practices for anxiety and substance use patients; (3) dishonest physicians, such as the so-called "scrip docs," who knowingly write prescriptions for profit; and (4) disabled physicians, who are impaired by their own addiction, psychiatric problems, or senility.[62]

Proper Prescribing Practices for High-Risk Patients

Medically managing patients who have addictive and psychiatric disorders presents a conceptual and clinical dilemma. On one hand, psychoactive medications are useful for intended psychiatric indications. On the other, a high-risk patient is a likely candidate for using psychoactive drugs compulsively, including benzodiazepines. The dilemma arises when faced with prescribing for high-risk patients those psychoactive medications that normally would be safe and effective for most patients. A different standard of care exists when prescribing for patients with addictive disease.

When treating high-risk patients, it is prudent to use nonpsychoactive alternatives first. Nonpsychoactive approaches, such as acupuncture, exercise, biofeedback, and stress reduction techniques, and nonpsychoactive drugs, such as antidepressants and buspirone, should be attempted for a recovering (drug-free) alcoholic with anxiety, for example.

If the severity of a psychiatric problem limits a patient's ability to function, and if nonpsychoactive alternatives fail to help, then the patient can be provided with psychoactive medication. These patients, however, will be more likely to develop (1) a compulsion for their medications, (2) loss of control over their medications, and (3) continued use despite adverse consequences, especially if given free control over their medications. For these patients, the following prescribing guide can maximize protection for both patients and the physician.

The "Six Ds" of Proper Prescribing Practices

Diagnosis

Making a formal diagnosis based on a thorough examination before prescribing psychoactive drugs seems obvious and simplistic. Nevertheless, in our forensic experience, a break in the chain of examination-testing-diagnosis-documentation *before* prescribing represents the most common error for physicians facing misprescribing malpractice liability proceedings.

It is essential that the physician make a specific diagnosis of the patient's problem based on careful history, thorough examination, and appropriate tests. For acute problems (e.g., brief episodes of pain or panic), it is within the standard of care to treat that problem operating with a tentative diagnosis. As an acute problem begins to linger or become chronic, however, a diagnosis must be made or attempted. Anxiety disorders, insomnia, and pain are subjective. The physician is obligated to attempt to identify the cause of the problem, not simply to chart presenting symptoms.

Dosage

Primary care physicians must have a good understanding of the diagnostic criteria for anxiety and substance use disorders. All patients with anxiety disorders should be evaluated for substance use problems, and patients with substance use disorders should be evaluated for anxiety disorders. After making the diagnosis and outlining a treatment plan, the physician can then select a medication appropriate for the specific diagnosis. The drug chosen should be selected because it is clinically indicated for that specific disorder. Furthermore, the physician should prescribe a dosage appropriate for the diagnosis and severity of the problem, attempting neither to undermedicate nor to overmedicate. As symptoms increase and decrease in severity, the medications should likewise be adjusted. For high-risk patients, medication should be handed to the patient on a daily basis at the office, so that dosage and compliance can be closely monitored.

Duration

In concert with the patients and their significant others, the physician should develop a treatment plan that specifies the expected length of time the medications will be used. The *Physicians' Desk Reference* [63] is a common, useful resource that can assist in determining an appropriate treatment duration.

Discontinuation

The physician should conduct periodic evaluations regarding when to consider discontinuing the drug. Variables include medication complications (including toxicity and dependence), expiration of planned trial, fading of the original crisis, and the patient learning alternative ways to cope with the original problem.

Dependence

Throughout the treatment period, the patient should be carefully monitored for possible drug dependence and toxicity. In this regard, the physician is legally and ethically responsible for warning the patient about the side effects of the medications, including any potential for developing dependency. Patient education includes instruction regarding patient risk factors and the distinction between dependence and addiction problems. Drug dependence in the low-risk patient can be avoided when possible and tolerated when necessary. Dependence developing in a person with addictive disease, however, might easily trigger an explosive episode of compulsive prescription and other drug use.

Documentation

In this era of "medicine by lawsuit," it is becoming critical to document carefully in the patient's chart the (1) presenting complaints; (2) tentative and formal diagnosis; (3) course of treatment; (4) all prescriptions, refills, and prescription refusals; and (5) consultations.

Consultations

Consultation with addiction medicine specialists for addiction or abuse problems that lie outside the physician's area of expertise can facilitate evaluation and treatment, much as would consultation with a pain specialist, cardiologist, or psychiatrist. Members of the American Society of Addiction Medicine are physicians in various areas of medicine who have a specialty or subspecialty in addiction medicine. Nonphysician addiction specialists and drug and alcohol abuse counselors can be invaluable resources; the medical management of substance abuse problems is only one part of overall treatment. These consultations should likewise be recorded in the patient's charts for documentation.

Conclusion

Primary care physicians treat patients with various anxiety disorders, some of whom will have a coexisting substance use disorder that can be either evident or hidden from the physician.[64] Other patients can be at significant risk for developing substance use disorders when exposed to psychoactive drugs, whether prescribed or not. Physicians should be aware of the risk factors that help predict maladaptive responses to psychoactive pharmacotherapy, including a personal and family history of substance use disorders. Physicians should apply a stepwise anxiety treatment protocol beginning with conservative, nonpharmacological treatment, especially for high-risk patients. Psychoactive pharmacotherapy should be the last resort for high-risk patients, as psychoactive drugs can initiate iatrogenic addiction. When prescribing for high-risk patients, physicians should follow proper prescribing practices, giving special attention to diagnosis, dosage, duration, discontinuation, dependence, documentation, and consultation.

References

1. Zung WW. Prevalence of clinically significant anxiety in a family practice setting. Am J Psychiatry 1986; 143:1471-2.
2. IMS national prescription audit, therapeutic category report. Plymouth Meeting, PA: IMS America, Ltd., 1988.
3. Kamerow DB, Pincus HA, Macdonald DI. Alcohol abuse, other drug abuse, and mental disorders in medical practice. Prevalence, costs, recognition, and treatment. JAMA 1986; 255:2054-7.
4. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 3rd ed. Revised. Washington, DC: American Psychiatric Association, 1987:165-72.
5. Smith DE, Milkman HB, Sunderwirth SG. Addictive disease: concept and controversy. In: Milkman HB, Shaffer HJ, editors. The addictions: multidisciplinary perspectives and treatments. Lexington, MA: Lexington Books, 1985:145-59.

6. Smith DE, Wesson DR. Benzodiazepine dependency syndromes. J Psychoactive Drugs 1983; 15: 85-95.
7. Mackinnon GL, Parker WA. Benzodiazepine withdrawal syndrome: a literature review and evaluation. Am J Drug Alcohol Abuse 1982; 9:19-33.
8. Landry M. Update on cocaine dependence: crack and advances in diagnostics and treatment. In: Smith DE, Wesson DR, editors. Treating cocaine dependency. Center City, MN: Hazelden, 1988:91-116.
9. Jones RT. Psychopharmacology of cocaine. In: Washton AM, Gold MS, editors. Cocaine: a clinician's handbook. New York: The Guilford Press, 1987:55-72.
10. Daigle RD, Clark HW, Landry MJ. A primer on neurotransmitters and cocaine. J Psychoactive Drugs 1988; 20:283-95.
11. Crowley TJ. A biobehavioral approach to the origins and treatment of substance abuse. In: Milkman HB, Shaffer HJ, editors. The addictions: multidisciplinary perspectives and treatments. Lexington, MA. Lexington Books, 1985:105-9.
12. Meyer RE. What characterizes addiction? Alcohol Health Res World 1989; 13:316-20.
13. Inaba DS, Cohen WE. Uppers, downers, all arounders: physical and mental effects of psychoactive drugs. Ashland, OR: Cinemed, 1989.
14. Talbott GD, Gallegos KV, Wilson PO, Porter TL. The Medical Association of Georgia's Impaired Physicians Program: review of the first 1000 physicians: analysis of specialty. JAMA 1987; 257: 2927-30.
15. Goodwin DW. Is alcoholism hereditary? New York: Ballantine Books, 1988.
16. Washton A, Boundy D. Willpower's not enough: understanding and overcoming addictions and obsessive behavior. New York: Harper & Row, 1989.
17. Li T-K, Lockmuller JC. Why are some people more susceptible to alcoholism? Alcohol Health Res World 1989; 13:310-5.
18. Schuckit MA. Ethanol-induced changes in body sway in men at high alcoholism risk. Arch Gen Psychiatry 1985; 42:375-9.
19. Schuckit MA, Risch SC, Gold EO. Alcohol consumption, ACTH level, and family history of alcoholism. Am J Psychiatry 1988; 145:1391-5.
20. Naitoh P. The value of electroencephalography in alcoholism. Ann NY Acad Sci 1973; 215:303-20.
21. Jones FW, Holmes DS. Alcoholism, alpha production, and biofeedback. J Consult Clin Psychol 1976; 44:224-8.
22. Begleiter H, Porjesz B, Tenner M. Neuroradiological and neurophysiological evidence of brain deficits in chronic alcoholics. Acta Psychiatr Scand Suppl 1980; 286:3-13.
23. Porjesz B, Begleiter H, Garozzo R. Visual evoked potential correlates of information processing deficits in chronic alcoholics. In: Begleiter H, editor. Biological effects of alcohol. New York: Plenum Press 1980:603-23.
24. Begleiter H, Porjesz B, Bihari B, Kissin B. Event-related potentials in boys at risk for alcoholism. Science 1984; 225:1493-6.
25. Gabrielli WF Jr, Mednick SA, Volavka J, Pollock VE, Schulsinger F, Itil TM. Electroencephalograms in children of alcoholic fathers. Psychophysiology 1982; 19:404-7.
26. Pollock VE, Volavka J, Goodwin DW, Mednick SA, Gabrielli WF, Knop J, et al. The EEG after alcohol administration in men at risk for alcoholism. Arch Gen Psychiatry 1983; 40:857-61.
27. Goodwin DW, Guze SB. Psychiatric diagnosis. 4th ed. New York: Oxford University Press, 1989.
28. Goodwin DW. Alcoholism and genetics. The sins of the fathers. Arch Gen Psychiatry 1985; 42:171-4.
29. Tarter RE, Hegedus AM, Gavaler JS. Hyperactivity in sons of alcoholics. J Stud Alcohol 1985; 46: 259-61.
30. Buydens-Branchey L, Branchey MH, Noumair D. Age of alcoholism onset. I. Relationship to psychopathology. Arch Gen Psychiatry 1989; 46: 225-30.
31. Schuckit MA. Alcoholism and sociopathy—diagnostic confusion. Q J Stud Alcohol 1973; 34: 157-64.
32. Schaeffer KW, Parsons OA, Yohman JR. Neuropsychological differences between male familial and nonfamilial alcoholics and nonalcoholics. Alcohol Clin Exp Res 1984; 8:347-58.
33. Ciraulo DA, Sands BF, Shader RI. Critical review of liability for benzodiazepine abuse among alcoholics. Am J Psychiatry 1988; 145:1501-6.
34. Woods JH, Katz JL, Winger G. Use and abuse of benzodiazepines. Issues relevant to prescribing. JAMA 1988; 260:3476-80.
35. Smith DE. Benzodiazepine dependence potential: current studies and trends. J Subst Abuse Treat 1984; 1:163-7.
36. Senay EC. Addictive behaviors and benzodiazepines: 1. Abuse liability and physical dependence. Adv Alcohol Subst Abuse 1989; 8:107-24.
37. Weiss KJ, Greenfield DP. Prescription drug abuse. Psychiatr Clin North Am 1986; 9:475-90.
38. Zung WWK. A rating instrument for anxiety disorders. Psychosomatics 1971; 12:371-9.
39. Zweben JE. Recovery-oriented psychotherapy: patient resistances and therapist dilemmas. J Subst Abuse Treat 1989; 6:123-32.
40. Reid WH. The treatment of psychiatric disorders: revised for the DSM-III-R. New York: Brunner/Mazel, 1989.
41. Levenson H, Pope KS. Behavior therapy and cognitive therapy. In: Goldman HH, editor. Review of general psychiatry. 2nd ed. Norwalk, CT: Appleton & Lange, 1988:529-39.
42. Weiss DS, Billings JH. Behavioral medicine techniques. In: Goldman HH, editor. Review of general psychiatry. 2nd ed. Norwalk, CT: Appleton & Lange, 1988:574-9.
43. Johnsgard KW. The exercise prescription for depression and anxiety. New York: Plenum Press, 1989.

44. Ballenger JC. Pharmacotherapy of the panic disorders. J Clin Psychiatry 1986; 47 (Suppl):27-32.
45. Klein DF. Delineation of two drug-responsive anxiety syndromes. Psychopharmacologia 1964; 5:397-408.
46. Sheehan DV, Ballenger J, Jacobsen G. Treatment of endogenous anxiety with phobic, hysterical, and hypochondriacal symptoms. Arch Gen Psychiatry 1980; 37:51-9.
47. Young SN. The clinical psychopharmacology of tryptophan. In: Wurtman RJ, Wurtman JJ, editors. Nutrition and the brain, Vol 7. Food constituents affecting normal and abnormal behaviors. New York: Raven Press, 1986:49-88.
48. Hauri PJ. Primary insomnia. In: Treatment of Psychiatric Disorders: a task force report of the American Psychiatric Association. Washington, DC: American Psychiatric Association, 1989: 2424-33.
49. Specter M. Possible cause of L-tryptophan-related illness found. Washington Post, April 26, 1990:A4.
50. Centers for Disease Control. Analysis of L-tryptophan for the etiology of eosinophilia-myalgia syndrome. JAMA 1990; 264:1656.
51. Bulpitt KJ, Verity MA, Clements PJ, Paulus HE. Association of L-tryptophan and an illness resembling eosinophilic fascitis. Clinical and histopathologic findings in four patients with eosinophilia myalgia syndrome. Arthritis Rheum 1990; 33:918-29.
52. Shulman LE. An eosinophilia-myalgia syndrome associated with ingestion of L-tryptophan. Arthritis Rheum 1990; 33:913-7.
53. Smith BE, Dyck PJ. Peripheral neuropathy in the eosinophilia-myalgia syndrome associated with L-tryptophan ingestion. Neurology 1990; 40: 1035-40.
54. Trevor AJ, Way WL. Drugs used for anxiety states and sleep problems. In: Goldman HH, editor. Review of general psychiatry. 2nd ed. Norwalk, CT: Appleton & Lange, 1988:600-12.
55. Sheehan DV. Current concepts in psychiatry. Panic attacks and phobias. New Engl J Med 1982. 307: 156-8.
56. Noyes R Jr, Anderson DJ, Clancy J, Crowe RR, Slymen DJ, Ghoneim MM, et al. Diazepam and propranolol in panic disorders and agoraphobia. Arch Gen Psychiatry 1984; 41:287-92.
57. Cole JO, Orzack MH, Beake B, Bird M, Bar-Tal Y. Assessment of the abuse liability of buspirone in recreational sedative users. J Clin Psychiatry 1982; 43:69-75.
58. Schuckit MA. Clinical studies of buspirone. Psychopathology 1984; 17 (Suppl):61-8.
59. Cohn JB, Wilcox CS. Low-sedation potential of buspirone compared with alprazolam and lorazepam in the treatment of anxious patients: a double-blind study. J Clin Psychiatry 1986; 47:409-12.
60. Lader M. Assessing the potential for buspirone dependence or abuse and effects of its withdrawal. Am J Med 1987; 82:20-6.
61. Eison AS, Temble DL Jr. Buspirone: review of its pharmacology and current perspectives on its mechanism of action. Am J Med 1986; 80 (Suppl 3B):1-9.
62. Wesson DR, Smith DE. Prescription drug abuse. Patient, physician, and cultural responsibilities. West J Med 1990; 152:613-6.
63. Physicians desk reference. Oradell, NJ: Medical Economics Co., 1991.
64. Landry MJ, Smith DE, McDuff D, Baughman OL 3d. Anxiety and substance use disorders: a primer for primary care physicians. J Am Board Fam Pract 1991; 4:47-53.