

Section One

The Scourge of Adolescent Addiction

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The Scourge of Addiction: What the Adolescent Psychiatrist Needs to Know¹

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Adolescent dual diagnosis and the scourge of teenage addiction are endemic in the United States. The use of alcohol and other drugs by adolescents in the United States has become so common that all adolescent psychiatrists must possess baseline levels of information about the diagnosis and treatment of dually diagnosed teenagers (i.e., adolescents who have mental disorders and are using alcohol or other drugs).

This chapter is an adaptation of the Presidential Address presented at the 2004 Annual Meeting of the American Society for Adolescent Psychiatry (ASAP), Los Angeles, California. It reviews the essentials of adolescent addiction psychiatry for general adolescent psychiatrists.

ADOLESCENT DUAL DIAGNOSIS

According to Daley and Moss [1], the 1996 National Comorbidity Study of more than 8000 respondents found that lifetime rates for the general population are 26.6% for substance use disorder and 21.4% for mental disorder. Among those with mental health disorders, 51% have a coexisting substance use disorder. Among those with substance use disorders, 41–66% (depending on the drug of choice) have coexisting mental disorders.

The federal government's National Institutes of Health conducts an annual survey of teenage drug abuse in the United States. The 2010 annual survey, published in 2011, revealed that the percentages of 12th-graders using illicit drugs were as follows: 23.8% had used an illicit drug during the past 30-day period,

38.3% within the past year, and 48.2% sometime during their life [2]. In 1992, the cost of alcohol abuse for all ages of alcohol users in the United States was estimated at \$148 billion, and other drug abuse costs for all ages of drug users were estimated at an additional \$98 billion [3].

In addition to the considerations that make use of alcohol and other drugs a matter of concern for all psychiatric patients, particular issues need to be considered when working with dually diagnosed teenagers. Among those special issues are considerations that relate to the biological, psychological, and social ways in which adolescents differ from adults in their vulnerabilities to drugs.

The biological differences include the fact that the adolescent brain is in a process of age-related growth and development. It is now common knowledge that it is dangerous to expose the brain of a fetus to many legal and illegal drugs. Unfortunately, it is not so well known that exposing the brain of a teenager to many such drugs is also dangerous. The biological processes that ideally lead to the development of executive functions of the brain may be compromised by exposure to exogenous chemicals, so that failure of normal cognitive development may occur in adolescents who frequently use or abuse drugs. Even if a teenager eventually attains a state of recovery from his or her substance abuse disorders, it is not clear whether or not chemically induced cognitive developmental problems will spontaneously resolve themselves. With adults, the question may be whether or not drug-induced cognitive impairments will return to pre-drug adult normal brain functioning. With teenagers, however, because of the interference with normal brain development, there may be no pre-drug normal

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brain functioning to which to return. Whether the teen-aged brain can ever recover from a drug-induced developmental delay or arrest is unknown at this time.

The psychological vulnerabilities of adolescents – closely correlated with their biological vulnerabilities – relate to their still-developing capacity to control impulses, engage in rational decision-making, exercise wise judgment (rather than merely acquiring knowledge), and grasp the implications of facts (rather than merely learning the facts themselves). When the focus of an adolescent's attention is on drugs (obtaining drugs, using drugs, and recovering from the acute intoxication induced by drugs), insufficient time and effort are likely to be devoted to learning and mastering the psychological abilities needed to function effectively as an autonomous person (e.g., stable accurate positive identity, emotional self-regulation). Socially, when much of an adolescent's energy is devoted to the processes related to obtaining drugs, there is likely to be impairment in interpersonal effectiveness, in establishing a stable supportive social network, and in the acquisition of positively valued knowledge and skills.

Given teenagers' special vulnerabilities to the deleterious effects of alcohol and other drugs, it is particularly important that adolescent psychiatrists have basic knowledge about addiction. Substance abuse can mimic psychiatric disorders. For example, the effects of stimulants (and the side effects of withdrawal from sedatives) may be mistaken for anxiety disorders. The effects of sedatives (and the side effects of withdrawal from stimulants) may be confused with depression. Substance-induced psychoses may be misperceived as functional psychoses. In some instances, a psychiatric diagnosis can be made with relative certainty only after the adolescent has been in a truly drug-free milieu for one or more months.

At a minimum, adolescent psychiatrists should know the answers to the following questions:

1. What screening tests are available to detect adolescent substance abusers?
2. What factors may be protective in reducing the risk of adolescent substance abuse?
3. What factors may predispose adolescents to alcohol and other drug use and abuse?
4. What warning signs suggest that an adolescent may have problems with drugs?
5. What treatment options are available to adolescent addicts?
6. What factors may reduce the risk of relapse?

What Screening Tests Are Available to Detect Adolescent Substance Abusers?

Among the rapid-screening instruments for substance abuse by teenagers are the Problem-Oriented

Screening Instrument for Teenagers (POSIT) [4], the Alcohol Use Disorders Identification Test (AUDIT) [5], and the CRAFFT Screening for Substance Use Problems [6,7]. Because the CRAFFT uses an acronym for its six questions, they are especially easy to remember:

- C** Have you ever ridden in a car driven by someone (including yourself) who was high or had been using alcohol or drugs?
- R** Do you ever use alcohol or drugs to relax, feel better about yourself, or fit in?
- A** Do you ever use alcohol or drugs while you are alone?
- F** Do you ever forget things you did while using alcohol or drugs?
- F** Do your family or friends ever tell you that you should cut down on your drinking or drug use?
- T** Have you ever gotten into trouble while you were using alcohol or drugs?

Two or more positive responses on the CRAFFT identifies teenagers whose alcohol and/or drug use warrants further assessment. The psychiatrist must be aware of the fact that the CRAFFT only works if the adolescent provides honest answers to its questions; it is invalidated by deceit.

Any teenager who is suspected of substance abuse should have a urine drug screening. It is a challenge to present the request for a urine specimen in a manner that does not harm the adolescent's rapport with the psychiatrist. It may be useful to put the request for a urine specimen in the most positive frame: for instance, by stating that it is an opportunity for the adolescent to demonstrate objectively that he or she is not currently abusing drugs. (The psychiatrist should be aware that most drugs are undetectable in urine more than 3 days after the drug has been used.) If an adolescent has no substance abuse to hide, he or she has every reason to provide a urine sample. Teenagers who refuse to provide urine specimens for drug screening should be regarded as at higher risk for using drugs. The more vociferous the adolescent's refusal and the greater his or her indignation, the higher should be the psychiatrist's level of suspicion.

Adolescent psychiatrists should be familiar with the special precautions to be taken with substance-abusing teenagers to ensure that the urine sample obtained is actually from the specific patient from whom it was sought. Substance-abusing teenagers are often sophisticated in methods to avoid being detected on urine screening tests. Substitution of someone else's clean urine sample is common. So is dilution of a urine sample so that the concentration of the drugs is too low to be

detected. Claiming to have urinated so recently that there is no urine left to provide for an immediate sample is another dodge. Most commercial laboratories and most pediatricians are not trained to routinely address, let alone avoid, these urine collection problems. Patients should provide a urine sample under the direct observation of a health professional (if necessary, after being given two ordinary glasses of water to drink and after sufficient time has elapsed for a urine sample to be obtainable). The possibility that the drug-abusing teenager (often much more knowledgeable about these matters than the psychiatrist) has deliberately ingested some food or other legal substance to mask the presence of an illegal substance should also be considered. Drug-abusing youths may claim that a urine test has produced a false positive; all positive findings on routine high-sensitivity urine screenings for drugs should automatically be retested using more highly selective tests.

What Factors May Reduce the Risk of Adolescent Substance Abuse?

According to MacNamee [8], protective factors include the following:

1. strong ties to family and community;
2. involvement in church or religious groups;
3. parents who set limits, provide supervision, and make clear their explicit expectations that alcohol and drugs will not be used;
4. personal traits of optimism, self-esteem, and risk avoidance; and
5. residence in a stable community without drug trade or street violence.

What Factors May Predispose Adolescents to Alcohol and Other Drug Use and Abuse?

As cited by Bates and Hendren [9], these factors include:

1. parental attitudes toward substance abuse, such as permissiveness;
2. genetic vulnerability to substance abuse;
3. participation in a peer culture in which others use drugs; and
4. individual characteristics such as low self-esteem, aversion to conformity, lack of religious and school involvement, and sensation-seeking.

Generally, a teenager with two or more of these predisposing factors may be regarded as at relatively increased risk for substance abuse.

What Warning Signs Suggest Adolescent Problems with Alcohol and Other Drugs?

A high index of suspicion is warranted in the presence of other psychiatric disorders, notably attention-deficit/hyperactivity disorder, conduct disorder, depressive disorders, or anxiety disorders [10]. Warning signs cited by MacNamee [8] include the following:

1. Problems at school (e.g., unexplained drop in grades, unexplained drop in performance, irregular attendance).
2. Problems with health (e.g., accidents; frequent “flu” episodes; chronic cough, chest pains, and allergy symptoms).
3. Problems with the family (e.g., decreased interest in family activities, not bringing friends home, unexplained delays in returning home after school, unaccounted-for personal time, evasive responses about activities, unexplained disappearance of possessions in the home, mistreatment of younger siblings).
4. Problems with peers (e.g., old friends are discarded, new friends are acquired, preference for parties at which parental adults are not present, strange phone calls).

What Treatment Options Are Available to Adolescents Who Abuse Alcohol and Other Drugs?

These include (i) self-help organizations such as Alcoholics Anonymous (AA), Narcotics Anonymous (NA), and Self-Management and Recovery Training (SMART Recovery^{®2}); (ii) individual, group, and family outpatient therapies; (iii) day treatment centers; (iv) intensive outpatient treatment programs; (v) residential treatment centers; and (vi) psychiatric hospitalization.

In considering which patients should be treated on an outpatient basis, Bates and Hendren [9] suggest that the indications for outpatient treatment include the adolescent’s acceptance of having a substance abuse problem and acceptance of the need for help; willingness to abstain from all substances of abuse; cooperation with random urine drug screens to ensure compliance; and ability to commit to regular attendance at therapy and support groups. They further state that teenagers should not be treated on an outpatient basis if they have acute medical or psychiatric problems requiring an intense level of supervision, chronic medical problems that

² SMART Recovery[®] is an alternative to AA, NA and 12-step programs, using cognitive behavioral therapy (CBT) principles and a secular approach. Detailed information is available at www.smartrecovery.org.

preclude outpatient treatment, continued association with substance-abusing peers, lack of motivation for treatment, or history of prior failure of outpatient treatment. Other contraindications to outpatient treatment include significant resistance to authority, major family dysfunction, and inability to function without strong outside support [9].

What Factors May Reduce the Risk of Relapse?

In reviewing treatment outcome studies, Bates and Hendren [9] found that relapse rates ranged from 35% to 85% overall, and that positive outcome is associated with constructive peer influences and family and religious support, active family involvement in the treatment, court pressure (especially during the early phase of treatment), and voluntary participation in treatment.

How Does One Learn to Treat Adolescents with Addiction Problems?

Most adolescent psychiatrists are not trained in addiction psychiatry. Such training may be obtained by participation in postresidency continuing medical education programs, such as those provided by the American Society for Addiction Medicine (ASAM) and the American Academy of Addiction Psychiatry (AAAP) and by reading any of the major textbooks on addiction psychiatry. The US government, through the National Institute of Drug Abuse (NIDA) and the National Institute of Alcohol Abuse and Alcoholism (NIAAA), provides some excellent reading materials related to addiction. For example, in Project MATCH, NIAAA funded a multicenter research project involving more than 1700 alcohol-abusing patients [11, 12]. This project studied the comparative efficacy of three treatment approaches: motivational enhancement therapy, a modification of motivational interviewing; cognitive behavioral therapy; and 12-step facilitation. All three types of treatment were found to be of essentially equal effectiveness. One of the most useful outcomes of Project Match was the development of its training manuals for the three types of treatment. Therapists who wish to learn these specific psychotherapeutic approaches can obtain the manuals from NIAAA and train themselves in the theory and practice of each of the techniques (see the NIAAA webpage at <http://www.niaaa.nih.gov/publications/publications.htm>, for a list of publications).

Which Therapy is Appropriate for Whom?

The therapeutic intervention that should be used depends on the stage of substance use of the individual adolescent. There are four stages of substance use:

1. *Experimentation or casual use.* Teenagers who are experimenting or casually using alcohol or other drugs may respond to education about the risks of substance abuse, and brief counseling.
2. *Regular use.* Teenagers who regularly use alcohol or other drugs may respond to education and counseling, to individual or group psychotherapy, to family therapy, and to implementation of abstinence contracts.
3. *Abuse.* Teenagers who are abusing alcohol or other drugs may respond to such individual outpatient therapies as motivational interviewing, cognitive behavioral therapy, or 12-step programs. Those who do not respond to such individual outpatient therapies may respond to intensive outpatient treatment, to partial hospitalization, or to inpatient treatment in a residential treatment center or a hospital.
4. *Dependence.* Teenagers who are dependent on alcohol or other drugs may respond to inpatient treatment in a residential treatment center or a hospital with aftercare at an intensive outpatient treatment program or a halfway house, or to multisystemic therapy as developed by Pickrel and Henggeler [12].

It is essential, when recommending treatment, to consider the adolescent's stage of readiness for change. The therapist's efforts are most likely to be effective when they are consistent with the adolescent's stage of readiness. Prochaska and DiClemente have developed a trans-theoretical model (TTM) of intentional change, a model that focuses on decision-making [14]. This model integrates key constructs from other theories to describe how people modify a problem behavior or acquire a positive behavior. It involves emotions, cognitions, and behavior, and takes into account the fact that individuals vary in their readiness to change. Prochaska and DiClemente note that relapse may occur repeatedly and at any stage of change. The following are their stages of readiness for change.

- *Precontemplation.* The adolescent has not considered changing or has no thought of changing during the coming 6 months. An adolescent at the precontemplation stage may be willing to consider facts about the risks of substance use but almost certainly will not be willing to accept any proffered treatments.
- *Contemplation.* The adolescent has considered changing or has thought of changing sometime in the coming 6 months. An adolescent at the contemplation stage may be willing to consider the advantages and disadvantages of changing but is also unlikely to be willing to commit to any specific treatment.
- *Preparation.* The adolescent is planning specifically how and what to change. An adolescent at the preparation state may be willing to consider what

types of treatments are available and their costs, convenience, and efficacy but is not likely to respond to pressure to commit to treatment.

- *Action.* The adolescent is implementing a specific change or changes. An adolescent at the action stage may respond to referral to specific treatments but is unlikely to be ready to address relapse prevention strategies.
- *Maintenance.* The adolescent is continuing the change or changes. An adolescent at the maintenance stage may respond to relapse-prevention training.

When the therapist's efforts with the adolescent are not consistent with the adolescent's stage of readiness, then the therapist's efforts are not likely to be effective. The therapist needs to determine the stage of readiness for change of the specific adolescent patient in order to have any hope of moving the teenager from an earlier stage to the next stage.

Motivational Interviewing

One of the individual psychotherapeutic approaches that is suited to the TTM conceptualization of stages of change is motivational interviewing [15], which focuses on exploring and resolving ambivalence. In motivational interviewing, the therapist avoids telling patients what to do; rather, the focus is on assisting the patient in resolving ambivalences constructively and engaging in self-determined courses of action.

The spirit of motivational interviewing is based on four core approaches to patients: expression of empathy for the patient; development of discrepancies between the patient's current situation and the patient's aspirations; finding ways around the patient's resistances; and supporting the patient's efforts at self-efficacy. Miller and Rollnick [15] regard motivational interviewing as a systematically respectful philosophical approach to patients, rather than as a set of techniques that can paternalistically be applied to manipulate patients into changing. Their approach is derived in part from Carl Rogers' client-centered therapy [16]. Although motivational interviewing involves reflective listening, it is more focused and goal-directed than Rogers' nondirective counseling. Among the hallmarks of motivational interviewing are the following:

Open-ended questions. Motivational interviewers ask questions that require discursive responses. (Miller and Rollnick [15] suggest that no more than three questions be asked in a row before engaging in reflection or summarization.)

Reflective listening. Motivational interviewers selectively inquire about facets of the patient's discursive responses.

Affirming and supporting the patient. Motivational interviewers are empathically encouraging and supportive of the patient's constructive aspirations.

Summarizing the patient's own statements. Motivational interviewers periodically link elements of the patient's discursive responses to summarize the themes and meaningful content of the patient's utterances.

Eliciting change talk. Drawing on the patient's ambivalence regarding the costs and benefits of continued use of alcohol or other drugs, motivational interviewers encourage patients to consider their options (e.g., what might be changed, what are the advantages and disadvantages of changing or not changing, how change might occur, how to overcome obstacles to change, and how to sustain change).

There are reasons to think that motivational interviewing might be especially effective with adolescents, who often are unwilling to take direction from adult authorities. Unlike cognitive behavioral therapists or 12-step facilitating therapists, motivational interviewers do not tell patients what to do, do not tell patients what is right and wrong, and do not assume a superior interpersonal stance in their work with patients. Rather, motivational interviewers work with the patient's own ambivalence about substance use and, through selective reinforcement of the patient's own discursive remarks, assist the patient in developing the motivation to move along the stages of change from precontemplation to contemplation, to preparation, to action, to maintenance. Motivational interviewers regard the patient's resistance to change as a technical problem to be constructively addressed by continuing to work with the patient in a non-confrontational manner. According to Zweben and Zuckoff [17], motivational interviewing can be constructively adapted for use with the adolescent population with practical therapeutic success.

CONCLUSION

Given the ubiquity of alcohol and other drugs in our society, and given the data on the prevalence of adolescents' experimentation with substances of abuse, adolescent psychiatrists must have baseline levels of information about addiction psychiatry. It is appropriate that the American Society for Adolescent Psychiatry (ASAP) devoted fully one-third of its annual scientific program in 2004 in Los Angeles to issues related to adolescent addiction. It is consistent with ASAP's dedication to the health of all teenagers that ASAP is taking a leadership role in bridging the knowledge gap between specialists in adolescent psychiatry and specialists in addiction psychiatry. In the

future, it is hoped that every adolescent psychiatrist will possess competence in the diagnosis and treatment of teenagers with substance abuse problems.

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