CHAPTER 11: Substance-Related Disorders

Chapter Overview/Summary

Substance-related disorders are quite common and frequently seen in people in the limelight such as professional athletes and entertainers. Addictive disorders—such as alcohol abuse, cocaine abuse, and pathological gambling—are among the most widespread and intransigent mental health problems facing us today. Many problems of alcohol or drug use involve difficulties that stem solely from the intoxicating effects of the substances. Dependence occurs when an individual develops a tolerance for the substance or exhibits withdrawal symptoms when the substance is not available.

Several psychoses related to alcoholism have been identified: idiosyncratic intoxication, withdrawal delirium, chronic alcoholic hallucinosis, and dementia associated with alcoholism. Drug-abuse disorders may involve physiological dependence on substances, such as opiates—particularly heroin—or barbiturates; however, psychological dependence may also occur with any of the drugs that are commonly used today—for example, marijuana.

A number of factors are considered important in the etiology of substance abuse disorders. Some substances, such as alcohol or opium, stimulate brain centers that produce euphoria—which then becomes a desired goal. It is widely believed that genetic factors may play some role in causing susceptibility through such biological avenues as metabolic rates and sensitivity to alcohol. Psychological factors—such as psychological vulnerability, stress, and the desire for tension reduction—and disturbed marital relationships are also seen as important etiologic elements in substance-use disorders. Although the existence of an “alcoholic personality type” has been disavowed by most theorists, a variety of personality factors apparently play an important role in the development and expression of addictive disorders. Finally, sociocultural factors, such as different attitudes toward alcohol seen in different cultures, may predispose individuals to alcoholism.

Possible causal factors in drug abuse include the influence of peer groups, the existence of a so-called drug culture, and the availability of drugs as tension reducers or pain relievers. Some research has explored a possible physiological basis for drug abuse. The discovery of endorphins, morphine-like substances produced by the body, has raised speculation that a biochemical basis of drug addiction may exist. The so-called “pleasure pathway”—the mesocorticollimbic dopamine pathway (MCLP)—has come under a great deal of study in recent years as the possible potential anatomic site underlying the addictions.

The treatment of individuals who abuse alcohol or drugs is generally difficult and often fails. The abuse may reflect a long history of psychological difficulties; interpersonal and marital distress may be involved; and financial and legal problems may be present. In addition, all such problems must be dealt with by an individual who denies the problems exist and is not motivated to work on them.

Several approaches to the treatment of chronic alcohol or drug abuse have been developed—for example, medication to deal with withdrawal symptoms and withdrawal delirium, or dietary evaluation and treatment for malnutrition. Psychological therapies, such as group therapy and behavioral interventions, may be effective with some alcohol or drug-abusing individuals. Another source of help for alcohol abusers is Alcoholics Anonymous; however, the extent of successful outcomes with this program has not been sufficiently studied. Most treatment programs require abstinence; however, over the past 20 years, research has suggested that some alcohol abusers can learn to control their drinking while continuing to drink socially. The controversy surrounding controlled drinking continues. Another source of controversy surrounds the use of methadone in the treatment of heroin addiction. Specifically, is the use of methadone simply a substitute for heroin or a true treatment?

Addictive behavior may also be seen in those not addicted to a particular substance. One such example is pathological gambling. Many of the same characteristics seen in substance-induced addiction are also seen in pathological gambling, and these individuals show some of the same personality characteristics and responses to treatment.

Detailed Outline

I. Alcohol Related Disorders (see Table 11.1 for some common misconceptions about alcohol and alcohol abuse)
A. Prevalence, Comorbidity, and Demographics of Alcohol Abuse and Dependence
1. World Health Organization no longer recommends the term *alcoholism* but prefers the term alcohol dependence syndrome.
2. 50% of adults 18 and over currently drink and 21% are lifetime abstainers.
3. 22.2 million Americans are classified as substance dependent.
4. Substance-related disorders.
5. Addictive behaviors.
7. Toxicity.
8. Substance abuse.
10. Tolerance.
12. Beer was first made in Egypt around 3000 B.C.; wine in Italy around 150 years before the birth of Christ; distillation about 800 A.D. in Arabia.
13. Alcohol abuse is associated with organic impairment, accidents, violent crimes, and suicides.
14. Comorbidity with at least one other mental disorder, especially depression.
15. Alcohol abuse and dependency include all age, educational, occupational, and socioeconomic boundaries.
16. The course of alcoholism is erratic and fluctuating.
17. Alcohol abuse results in 40% of automobile accident deaths.
18. Involved in 40%–50% of murders, 40% of assaults, and more than 50% of rapes.

B. The Clinical Picture of Alcohol Abuse and Dependence
1. Alcohol’s effects on the brain.
   a. Several physiological effects are common
      (1) Decreased sexual inhibition.
      (2) Lowered sexual performance.
      (3) Lapses of memory (blackouts).
      (4) Hangover.
      (5) No trace of recall.
      (6) Alcohol intoxication.
   b. Low levels of alcohol stimulate brain cells, activating the brains’ pleasure areas.
   c. Higher levels depress brain functioning, inhibiting glutamate (leading to impaired learning, judgment, and self-control).
   d. Experiences a sense of warmth, expansiveness, and well-being.
   e. When the alcohol content of the bloodstream is 0.08, the person is intoxicated—decreased muscular coordination, impaired speech and vision, and confused thought processes.
   f. When the blood alcohol level reaches 0.5, the entire neural balance is upset and the person loses consciousness; concentrations above 0.55 are usually lethal.
   g. Effects of alcohol vary for different drinkers, depending on physical condition, amount of food in the stomach, tolerance, and duration of drinking.
2. Development of alcohol dependence
   a. Progressive from early to middle to late stage.
   b. Fetal alcohol syndrome.
3. Physical effects of chronic alcohol use
   a. Cirrhosis of the liver is found in 15%–30% of heavy drinkers.
   b. 40%–90% of cirrhosis deaths are related to alcohol.
   c. Alcohol abuse can cause stomach pains.
   d. 5%–10% of alcohol is eliminated through breath, urine, and perspiration.
   e. High caloric intake of alcohol can be detrimental as it reduces the consumption of other foods, leading to malnutrition.
   f. Alcohol also interferes with the body’s ability to utilize nutrients; nutritional deficiency cannot be made up by vitamin pills.
4. Psychosocial effects of alcohol abuse and dependence
   a. Chronic fatigue, oversensitivity, and depression.
   b. Excessive alcohol use results in impaired reasoning, poor judgment, loss of responsibility, lack of pride in appearance, neglect of family.
   c. Brain damage may occur.

5. Psychoses associated with alcohol abuse
   a. **Alcohol withdrawal delirium** (delirium tremens) can occur during prolonged drinking or at withdrawal.
   b. Severe acute psychotic reactions fit diagnostics for substance-induced psychosis.
      (1) Symptoms can include disorientation, hallucinations, fear, extreme suggestibility, marked tremors, perspiration, fever, weak heart beat, coated tongue, and foul breath.
      (2) Can last from 3–6 days; generally followed by a deep sleep.
      (3) Former death rates from convulsions, heart failure, and other complications have fallen from about 10% as a result of drugs such as chlordiazepoxide.
   c. Alcohol amnestic disorder (Korsakoff’s syndrome)
      (1) Memory defect is its main feature.
      (2) Individuals with the disorder may confabulate and appear disoriented and delusional.
      (3) Other cognitive impairments, such as planning deficits, emotional deficits, and intellectual decline also occur.
      (4) Brain imaging studies document cortical lesions.
      (5) Symptoms may be due to vitamin B (thiamine) deficiency.

C. Biological Causal Factors in the Abuse of and Dependence on Alcohol
1. Two important factors in addiction:
   a. Ability of addictive drugs to activate areas of the brain that produce intrinsic pleasure and immediate powerful reward.
   b. Person’s biological make-up, including genetic inheritance and environmental influences (learning factors).

2. Neurobiology of addiction
   a. Routes of administration include: oral, nasal, and intravenous.
   b. “Pleasure pathway”—mesocorticolimbic dopamine pathway (MCLP) (Figure 11.1).
   c. Alcohol, and other drugs, produces stimulation and euphoria.
   d. Exposure of the brain to an addictive drug alters its neurochemical structure, resulting in behavioral effects.

3. Genetic vulnerability
   a. Almost 1/3 of alcoholics had a parent with an alcohol problem.
   b. An alcohol-risk personality has been described as one who has an inherited predisposition toward alcohol abuse and is impulsive, prefers taking high risks, and is emotionally unstable.
   c. Asians and Native Americans show an “alcohol flush reaction”—hypersensitive reaction that includes flushing of the skin, a drop in blood pressure, heart palpitations, and nausea following the ingestion of alcohol; found in about 50% and results from a mutant enzyme.

4. Genetics—the whole story?
   a. Exact role of genetics in alcoholism is unclear.
   b. Genetic transmission of alcoholism does not follow the hereditary pattern seen in other genetic disorders.
   c. Twin studies, adoption studies, and studies of high-risk groups have found no differences between those who are high risk and controls.
   d. McGue—mechanisms of genetic influence should be viewed as compatible rather than competitive with psychological and social determinants of alcohol abuse.

5. Genetic influences and learning
There must be exposure to the substance in order for addictive behavior to occur.

Development of an alcohol-related problem involves living in an environment that promotes initial as well as continuing use of the substance.

Numerous social and intrinsic reinforcements.

**D. Psychosocial Causal Factors in Alcohol Abuse and Dependence**

1. Failures in parental guidance
   a. Lack of stable family relationships, substance abuse.
   b. Exposure to negative models.

2. Psychological vulnerability
   a. Many potential alcohol abusers tend to be emotionally immature (impulsive and aggressive), expect a great deal of the world, require an inordinate amount of praise and appreciation, react to failure with marked feelings of hurt and inferiority, have low frustration tolerance, and feel inadequate and unsure of their abilities to fulfill expected male or female roles.
   b. Self-medication.
   c. Comorbid with depression, antisocial personality, and schizophrenia are disorders commonly associated with alcoholism.

3. Stress, tension reduction, and reinforcement
   a. Tension reduction model cannot be sole explanation because there would be more alcohol abusers.
   b. Alcoholism may be a learned maladaptive response.
   c. Motivational models of alcohol use place responsibility on the individual.
   d. 20%-50% of PTSD patients also have substance-abuse disorders.

4. Expectations of social success
   a. Expect alcohol to lower tension and anxiety and increase sexual desire and pleasure in life.
   b. Increase in popularity and acceptance by peers.
   c. Marital and other intimate relationship.
   d. Reciprocal influences model.

5. Marital and other intimate relationships
   a. Alcohol use may be related to crisis periods.
   b. Marital partners may behave toward each other in ways that promote or enable the spouse’s excessive drinking.
   c. Alcohol abuse is one of the most frequent causes of divorce.
   d. Six family relationship factors central to the development of alcohol abuse:
      (1) Presence of an alcoholic father.
      (2) Acute marital conflict.
      (3) Lax maternal supervision and inconsistent discipline.
      (4) Many family moves during early years.
      (5) Lack of "attachment" to father.
      (6) Lack of family cohesiveness.

6. Binge drinking in college
   a. 44% of college students in United States are binge drinkers.
   b. 98% of fraternity and sorority members drink every week.
   c. Reasons for binge drinking vary but include:
      (1) Expressing independence from parental influence.
      (2) Peer group and situational influences.
      (3) Developing and asserting gender role.
      (4) Holding beliefs that alcohol can make positive transformations.
   d. Consequences of binge drinking include:
      (1) 10 times more likely to engage in unplanned sexual activity.
      (2) Engaging in unprotected sex.
      (3) Trouble with campus police.
      (4) Damage property.
      (5) Injuries.
e. Long-range consequences of college binge drinking.
f. Does not predict post-college drinking.
g. 11-year longitudinal study did not find heavier drinking among those who had been binge drinkers in college.

E. Sociocultural Causal Factors
1. Social drinking has reinforcing properties, particularly in Western society.
2. Seen as the “social lubricant” to reduce tension.
3. Cultural attitudes toward alcohol influence the incidence of alcoholism
   a. Muslims.
   b. Mormons.
   c. Orthodox Jews.
   d. Europe and countries heavily influenced by European culture make up less than 20% of the world’s population yet consume 80% of the alcohol.
4. Behavior under the influence of alcohol also culturally influenced.

E. Treatment of Alcohol-Related Disorders
1. Refuse to admit that they have a problem before they hit bottom, and many who do go into treatment leave before treatment is completed.
2. Medications to block the desire to drink
   a. Disulfiram (Antabuse) causes vomiting when alcohol is ingested, and can disrupt the alcoholic cycle.
   b. Naltrexone reduces the craving for alcohol.
2. Medications to reduce the side effects of acute withdrawal
   a. Valium and diazepam.
   b. Providing maintenance doses of mild tranquilizers has given rise to concerns that this practice does not promote long-term recovery and may foster addiction to another substance.
   c. Initial focus on detoxification.
3. Psychological treatment approaches
   a. Group therapy
      (1) Face problems for first time.
      (2) Family may be invited to group.
   b. Environmental interventions
      (1) Alleviate aversive life situation.
      (2) Halfway houses may be important adjuncts.
   c. Behavioral and cognitive-behavioral therapy
      (1) Aversive conditioning methods employ noxious stimuli.
      (2) Marlatt—skills training procedure typically aimed at younger drinkers.
      (3) Self-control training techniques aimed at reducing alcohol intake but not necessarily abstaining.
4. Controlled drinking versus abstinence
   a. 15% –18% of subjects are successful with controlled drinking.
   b. Controlled drinking is more likely to be successful with people with less severe alcohol problems.
   c. Despite this evidence, this is still a highly controversial approach.
5. Alcoholics Anonymous (AA)
   a. Self-help group started in 1935 by two men, Dr. Bob and Bill W. in Akron, Ohio who recovered from alcoholism through a “fundamental spiritual change.”
   b. AA has more than 52,000 groups in the United States and Canada has 5,000, with 45,000 groups worldwide.
   c. Basic belief is that one is an alcoholic for life.
   d. Rehabilitation lifts the burden of personal responsibility.
   e. Affiliated movements bring family members together.
   f. Reported success is primarily based on anecdotal evidence.
   g. Objective studies—few in number—report:
      (1) Higher dropout rates in AA—about 50%.
      (2) Success with severe alcoholics is severely limited.
Experimental participants assigned to AA subsequently encountered more life difficulties and drank more than people in other treatment groups.

AA found to be better than no treatment.

Operates as a self-help counseling program.

AA view that one is an alcoholic for life and one is never cured, just in recovery.

### 6. Outcome studies and issues in treatment

- **a.** Low rates of success among hard-core substance abusers.
- **b.** Recovery rates of 70%–90% with modern treatment and aftercare procedures.
- **c.** Favorable outcomes relate to personal motivation for change and a positive relationship with the therapist.
- **d.** Drinking Check-Up sessions during the early stages of therapy are successful in reducing drinking.
- **e.** Project MATCH: matching patients to particular treatments did not appear to be important; all treatments used had equal outcomes.

### 7. Relapse prevention necessary and effective

- **a.** Recognizing indulgent behaviors.
- **b.** Recognizing abstinence violation effect.
- **c.** Clients taught to recognize apparently irrelevant decisions that serve as early warning signals of the possibility of relapse.
- **d.** One of the greatest problems in the treatment process.

### II. Drug Abuse and Dependence

#### A. Estimated 20.1 million people in the United States aged 12 and older use **psychoactive drugs** (see Table 11.2 for a list of common drugs).

1. Extent of abuse is probably underestimated.
2. 1/3 quit without seeking help.
3. Drug abuse and dependence is most common during adolescence and young adulthood.
5. Employment study:
   - **a.** 10.8% had illicit drugs in their system.
   - **b.** 55% of this figure tested positive for marijuana.
   - **c.** 36% of this figure tested positively for cocaine.
   - **d.** 28% of this figure tested positively for opiates.

#### B. Opium and its Derivatives (Narcotics)

1. Opium is a mixture of about 18 chemical substances known as alkaloids.
   - **a.** Alkaloid present in the largest amount (10%–15%) is **morphine**.
   - **b.** Morphine is a bitter-tasting powder; serves as a powerful sedative and pain reliever.
   - **c.** Morphine named after the Greek God of sleep, in Greek mythology.
   - **d.** Hypodermic needle introduced in the United States in 1856 and used in the Civil War.
2. If morphine is treated with acetic anhydride, you get **heroin**.
   - **a.** Pain relief.
   - **b.** Acts more rapidly and intensely than morphine.
3. Harrison Act (1914) criminalized the unauthorized sale and distribution of certain drugs.
4. Biological effects of morphine and heroin
   - **a.** Commonly smoked, snorted, eaten, “skin popped” or “mainlined.”
   - **b.** Mainlined or snorted heroin causes 60-second euphoric spasm (rush) followed by a high and a subsequent lethargic, withdrawn state.
   - **c.** Withdrawal occurs after extended use within 8 hours of a dose.
   - **d.** Withdrawal symptoms vary; many withdraw without assistance, others experience runny nose, tearing eyes, perspiration, restlessness, increased respiration rate, and an intensified desire for the drug; more intense symptoms include chilliness alternating with flushing and sweating, cramps, vomiting, diarrhea, pain in the back and extremities, tremors, and insomnia.
5. Social effects of morphine and heroin
   a. Life becomes centered on obtaining the drug.
   b. Leads to lying, stealing, and associating with those who supply the drugs.
   c. Disruption of the immune system.
   d. Non-sterile instruments can lead to diseases including AIDS.
   e. No controls on strength and purity.

6. Causal factors in opiate abuse and dependence
   a. No single causal pattern.
   b. Three most cited reasons for beginning to use heroin: pleasure, curiosity, and peer pressure.
   c. May be partially influenced by genetic factors.
   d. 81% of addicts keep using heroin because of the pleasure.

7. Neural bases for physiological addiction
   a. Repeated use of opiates results in changes in neurotransmitter systems.
   b. Endorphins are opium-like substances in the brain and are thought to be involved in pain responses; perhaps chronic underproduction of endorphins leads to a craving for narcotic drugs.

8. Addiction associated with psychopathology
   a. Antisocial traits may be involved.
   b. Lack of capacity to delay gratification is a factor.

9. Drug use associated with sociocultural factors
   a. Narcotics subculture.
   b. Isolation increases as addict group belongingness is bolstered.

10. Treatment and outcomes
    a. Strategies are similar to those for alcoholism.
    b. Withdrawal does not remove the craving for the drug.
    d. Group therapy.
    e. Counseling.
    f. Move toward total resocialization.
    g. Bupenorphine used as substitute with fewer side effects.
    h. Both methadone and bupenorphine work best when combined with behavior therapy.

C. Cocaine and Amphetamines (Stimulants)
1. Cocaine
   a. Due to the expense, once considered the drug of the affluent.
   b. Cocaine plant product was first discovered in ancient times and widely used in pre-Columbian Mexico and Peru.
   c. Speeds up the central nervous system.
   d. During the 1980s and 1990s, prices fell and middle-to upper-income people increased use.
   e. “Crack” cocaine, processed from cocaine hydrochloride to a free base for smoking, is much cheaper.
   f. Cocaine may be ingested by sniffing, swallowing, or injecting.
   g. Creates a 4–6 hour euphoric state experienced as feelings of contentment and confidence.
   h. When cocaine is abused: acute toxic psychotic symptoms may occur, including visual, auditory, and tactile hallucinations.
   i. Cocaine stimulates the brain’s cortex, inducing sleeplessness and excitement as well as stimulating and accentuating sexual experiences.
   j. Acute as well as chronic tolerance may be found.
   k. Physiological dependence does occur—cocaine withdrawal involves depression, fatigue, disturbed sleep, and increased dreaming.
   l. Follow-up studies show increased psychosocial problems over time.
   m. Cocaine use in pregnancy can cause fetal crack syndrome.
2. Treatment and outcomes
   a. Use of medications such as methadone and naltrexone to reduce cravings.
   b. Only 42% of those in one study remained in treatment for more than six sessions.
   c. Use of psychological therapy to ensure treatment compliance.
   d. Must also address feelings of tension and depression.
   e. Factors associated with poorer outcome: severity of abuse, poorer psychiatric functioning, presence of concurrent alcoholism.
   f. Problem of “dropping out.”
   g. Problems of comorbidity with antisocial personality disorder and psychosis-prone personalities.
   h. Some improve without treatment.

3. Amphetamines
   a. Benzedrine (amphetamine sulfate) was first synthesized in 1927.
   b. Dexedrine and Methedrine (speed) was introduced in the late 1930s.
   c. Initially used to ward off fatigue, especially during WWII, and to suppress appetite.
   d. Used today for appetite suppression, treating narcolepsy, and treating ADHD.
   e. Controlled Substance Act of 1970 classified amphetamines as Schedule II controlled substances.

4. Effects of amphetamine abuse
   a. Psychologically and physically addictive.
   b. Body rapidly builds up a tolerance.
   c. Excessive dosage results in heightened blood pressure, enlarged pupils, unclear or rapid speech, profuse sweating, tremors, excitability, loss of appetite, confusion, and sleeplessness.
   d. Chronic use can result in brain damage and psychopathology, including amphetamine psychosis.

5. Treatments and outcomes
   a. Withdrawal is usually physically painless, but treatment for this is scarce.
   b. Withdrawal after chronic excessive use can result in cramping, nausea, diarrhea, and even convulsions.
   c. Depression is a psychological consequence of abrupt withdrawal.

D. Methamphetamine
   1. Provides a quick and long-lasting high.
   2. 4.9 million people have tried this substance in the United States by 1990s.
   3. Relatively cheap to manufacture; often referred to as “poor people’s cocaine”
   4. Can be smoked, snorted, swallowed, or injected.
   5. Operates by increasing the level of dopamine in the brain; prolonged use produces structural changes in the brain.
   6. Duration of use positively correlated with psychiatric problems.
   7. Largest user population in the Southwest, Hawaii, and West Coast.
   8. Addicted users are highly resistant to treatment. One study found that 36% of users began using again within 6 months of treatment, and more than 50% within 2 years.
   9. Discontinuing use can lead to problems with learning and memory, cognitive dysfunctions, paranoid thinking, and hallucinations.

E. Barbiturates (Sedatives)
   1. Effects of barbiturates
      a. Calm patients and induce sleep.
      b. Excessive use leads to tolerance and dependence; tolerance does not increase the amount needed to cause death.
      c. Similar to the effects of alcohol.
      d. Brain damage and personality deterioration may occur from prolonged ingestion.
   2. Causal factors in barbiturate abuse and dependence
a. Middle-aged and older persons are susceptible to dependency when used as “sleeping pills”; referred to as silent abusers.
b. Alcohol is commonly used with barbiturates.

treatments and outcomes
a. Must differentiate between barbiturate intoxication and withdrawal.
b. Silent abusers: those who use in the privacy of their own home and alone.
c. Withdrawal symptoms can be dangerous and severe.
   (1) Anxiety, apprehension, coarse tremors of hands and face, insomnia, weakness, nausea, vomiting, abdominal cramps, rapid heart rate, elevated blood pressure, loss of weight.
   (2) Acute delirious psychosis may develop.
d. Withdrawal symptoms may be limited by other medications.

F. Hallucinogens: LSD and Related Drugs
1. LSD (lysergic acid diethylamide) is the most potent of all hallucinogens.
2. Drugs that induce hallucinations
   a. Chemically synthesized substance first discovered by the Swiss chemist Albert Hoffman in 1938.
   b. Research has found it ineffective as a psychological treatment.
      (1) “Trips” on the drug can be pleasant or extremely traumatic.
      (2) Flashbacks are involuntary recurrences of hallucinations.
      (3) Harrowing.
      (4) Model psychoses.
      (5) Associated with raves and club culture
3. Mescaline and psilocybin
   a. Mescaline is derived from the disc-like growths at the top of the peyote cactus.
   b. Psilocybin is obtained from a variety of Mexican mushrooms known as Psilocybe Mexicana.
   c. Ceremonial uses among Indian groups.
   d. Perceptions are altered, reality distorted.

G. Ecstasy
1. Both hallucinogen and stimulant.
2. Originally developed as a diet pill by Merck in 1913.
5. Increasingly popular as party drug.
6. Chemically similar to methamphetamine and to the hallucinogen mescaline.
7. Recreational use is associated with impulsivity and poor judgment.
8. Negative psychological and health consequences (including death).

H. Marijuana
1. Classified as a mild hallucinogen.
2. Comes from the leaves and flowering tops of the hemp plant, cannabis sativa.
3. Related to a stronger drug, hashish, derived from the resin exuded by the plant and made into a gummy powder.
4. Use is commonplace today; most commonly used illicit drug with 6.7% of the U.S. population using.
5. Effects of marijuana
   a. Vary greatly depending on the quality and dosage, personality and mood of user, user’s past experiences with the drug, the social setting, and the user’s expectations.
   b. Mild euphoria is produced.
   c. Sensory inputs are intensified, with both pleasant and unpleasant experiences.
   d. Time distortions are often present.
   e. Depressant and hallucinogenic effects are found.
   f. Induces memory dysfunction and a slowing of information processing.
g. Withdrawal symptoms including nervousness, tension, sleep problems, and appetite change.

6. Treatment
   a. Psychological treatment methods are effective.
   b. No pharmacotherapy treatment for cannabis dependency has been shown effective.
   c. Buspirone.

7. Synthetic marijuana “spice.”

I. Stimulants: Caffeine and Nicotine
   1. Both caffeine and nicotine now included as addictions in the DSM-5.
      a. Easy to abuse.
      b. Readily available.
      c. Have addictive properties.
      d. Difficult to quit.
      e. Becomes a habit.
      f. Cause side effects and health problems.
   2. Caffeine
      a. Available in many drinks and foods, easy to abuse.
      b. Negative effects from excessive intake involve intoxication rather than withdrawal (mild headache only).
      c. Caffeine-induced organic mental disorder: restlessness, nervousness, excitement, insomnia, muscle twitching, and gastrointestinal complaints.
   3. Nicotine
      a. Poisonous alkaloid.
      b. Nicotine dependency syndrome.
      c. Nicotine withdrawal disorder.
      d. 70.9 million Americans aged 12 or older smoke, 63% women and 53% men.

4. Treatment of nicotine withdrawal
   a. Social support groups.
   b. Replace cigarette smoking with safer forms of nicotine.
   c. Self-directed change.
   d. Professional assistance.
   e. Nicotine replacement therapy (NRT).
   f. All show about a 20%-25% success rate.
   g. Zyban to prevent relapse.

J. Gambling Disorder
   1. Characterized by continuous or periodic loss of control over gambling, preoccupation with gambling and with obtaining money for gambling, irrational behavior, continuation of the gambling behavior in spite of adverse consequences.
   2. Estimate prevalence of 1%-2% of the adult U.S. population.
   3. Negative effects on social, psychological, and economic well-being.
   4. Causal factors in pathological gambling:
      a. Learned pattern that appears very resistant to extinction (intermittent reinforcement).
      b. Known as compulsive gambling.
      c. Pathological gamblers are immature, rebellious, thrill-seeking, superstitious, antisocial, and compulsive.
      d. Beginners luck.
      e. Comorbidity with other disorders, particularly substance abuse.
      f. Southeast Asian Refugees in the U.S. show extensive problems in this area.
   5. Treatment and outcomes
      a. Most extensive approach is cognitive-behavioral therapy.
      b. Gamblers Anonymous, which is modeled after AA.
      c. Appears to be on the increase in the U.S.
III. Unresolved Issues: Exchanging Addictions: Is This an Effective Approach?

A. Methadone as an Aid to Heroin Addiction Treatment
   1. Satisfies heroin craving without serious psychological impairment.
   2. Facilitates psychological or social rehabilitation.
   3. Addicts on methadone can function normally and hold jobs.
   4. Is legal and quality controlled.
   5. Negative physical symptoms (hepatitis, cognitive impairments) and social consequences (trading sex for drugs) are sometimes associated.
   6. Variations in methadone programs, such as the use of additional drugs, are aimed at keeping addicts in therapy.

B. Drug Abstinence Instead of Methadone Maintenance?
   1. Methadone Transition Treatment
      a. A 180-day course of treatment.
      b. Involves methadone and psychosocial intervention.
      c. Ends with 80 days of phase out.

Key Terms

- addictive behavior
- alcohol withdrawal delirium
- alcoholic
- alcoholism
- amphetamine
- barbiturates
- caffeine
- cocaine
- delirium tremens
- Ecstasy
- endorphins
- flashback
- hallucinogens
- hashish
- heroin
- LSD
- marijuana
- mescaline
- mesocorticolimbic dopamine pathway (MCLP)
- methadone
- morphine
- nicotine
- opium
- pathological gambling
- psilocybin
- psychoactive drugs
- substance abuse
- substance dependence
- substance-related disorders
- tolerance
- toxicity
- withdrawal