

Chapter 3

What Are Mental Disorders?

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What Are Mental Disorders?

What are mental disorders? For centuries, philosophers, physicians, psychologists, and others have debated this question, variably defining and classifying mental disorders on the basis of presumed causes, observed symptoms, preferred treatment approaches, or social and political values. This lack of agreement has led many to the pessimistic conclusion that:

[H]istory or experience has not produced a generally accepted definition of mental disorder. . . nor is such a definition likely to be forthcoming in the foreseeable future (17).

The vagaries of definition do not negate the concrete problems mental disorders pose for individuals and society. Rather, society is confronted with the proposition of responding to disorders with important public health, economic, and social implications in the absence of any neat scheme for addressing them. This chapter explores the problems inherent in defining and classifying mental disorders in general and the symptoms, effects, and treatment of the specific disorders considered in this report.

DEFINING MENTAL DISORDERS

Defining a general concept such as mental disorders may seem at first blush to be an abstract, academic pursuit. After all, general concepts of health, disease, and illness evade easy definition, spawning debate over the most useful or appropriate framework for analyzing them (53). Is health simply the absence of disease? How do social values influence decisions about what constitutes disease? The way these general terms are defined influences the boundaries of medicine, professional interest, and perceived social responsibility. A series of recent court decisions on insurance coverage highlights the importance of specifying what mental disorders are. Decisions both to extend and to limit insurance benefits stemmed from the definition of mental disorders accepted by the courts (18,63). This section considers the difficulty of defining mental disorders, the conceptual frameworks that have been erected, and the way mental disorders are classified.

Part of the confusion in defining mental disorders arises from their broad reach and nebulous boundaries. A wide array of behaviors has been classified as

symptomatic of mental disorders, ranging from premenstrual syndrome, hostility toward others, or other maladaptive personality traits to full-blown psychosis (3,67). In addition, it is sometimes difficult to delineate where mental health ends and mental illness begins. As observed by Emil Kraepelin, the 19th century patriarch of mental disorder classification:

Wherever we try to mark out the frontier between mental health and disease, we find a neutral territory, in which the imperceptible change from the realm of normal mental life to that of obvious derangement takes place (36).

While the boundary between physical health and disease can also be indistinct, the lack of clarity between mental health and illness contributes to the impression that mental disorders encompass normal or willful differences in human thought, behavior, and emotion.

The way mental disorders are defined influences issues of research, treatment, social welfare, and public health and safety. Decisions regarding the appropriateness of treatment, research funding priorities, the financing of care by third-party payers, accommodation at the workplace, and criminal responsibility hinge, in part, on expert and popular concepts of mental disorders (85). Furthermore, mental health personnel include many different professionals and paraprofessionals: psychiatrists, psychologists, psychiatric social workers, psychiatric nurses, and other therapists and counselors. Each of these groups has its own area of expertise and professional agenda, and sometimes they conflict (72), creating another obstacle to a unified definition of mental disorders.

The fact that mental disorders affect primarily thought, emotion, and behavior further hinders efforts to arrive at a definition. There is a certain uneasiness about defining as diseased those aspects of the human mind by which we relate to, empathize with, and judge each other. The centuries-old conceptual divide between the mind, as the seat of thought, and the brain, as a biological entity, impairs our ability to classify mental disorders as diseases of the brain. Although an unambiguous link between a biological process and a higher mental function,

such as consciousness, has yet to be completely delineated, advances in the neurosciences, psychology, and computer science challenge rigid mind-brain dualism. Clinical medicine is also starting to bridge the mental-physical gap; the influence of mental factors on physical health and disease, as well as that of physical factors on mental disorders, is becoming increasingly apparent (14,26,27,86). Many persons in the mental health field, including professional groups (36,46), the National Institute of Mental Health (97), and other advocates (32), as well as physicians in general (39), assert the importance of biological, psychological, and social factors in understanding and treating health and disease (34).

Unfortunately, the impasse in defining mental disorders and prioritizing mental health needs has a negative impact on public perception and stalls the formulation of public policy. The cause and effect of this deadlock are described by David Rochefort (85), a political scientist and expert in mental health policy:

Since policy design arises from problem definition, lack of consensus about the nature of the problem being dealt with works counter to a collective sense of purpose and direction in mental health policy making. Although advocates for improved mental health care number many, their influence is often diffused in advancing different priorities for the investment of limited public resources. The situation is exacerbated by specialists' inability to reach agreement upon the boundaries of normal behavior or even the proportion of cases of recognized abnormality severe enough to warrant public intervention.

While it might thwart public policy, the definitional dilemma has not impeded research into and treatment of specific mental disorders. As psychiatrist-researcher Nancy Andreasen (8) observes:

Mental illness is an abstract concept, with disputable defining characteristics and debatable boundaries. On the other hand, specific illnesses are more easily delineated. There are many different kinds of mental illness that differ in their severity, symptoms, outcome, and effect on the patient's life.

The classification of disorders is the cornerstone of data collection and analysis; it also predicts the

outcome for a particular patient and determines the mode of treatment. The last decade saw advances in the classification of specific mental disorders, with the revision of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM) (3).¹ It is difficult to overestimate the influence of the most recent editions of this manual: DSM-III (2) and DSM-III-R (3). They are the most widely used mental health diagnostic manuals in the world. They provide the framework for studies of mental disorders, and in most cases a DSM-diagnosable disorder is required for third-party reimbursement of treatment costs. Given its widespread use and acceptance, the lexicon of DSM-III-R is used in this report.

DSM-III and DSM-III-R offer several improvements over previous editions of this manual. First, classifications are not founded on unproven notions of what may cause specific disorders.² Both editions identify most mental disorders on the basis of expressed mood or thought processes or on observed behaviors. Second, they improve the reliability of diagnosis. The criteria for reaching a diagnosis are explicit, diagnosis is less subjective, and there is greater agreement on diagnosis among clinicians (57).

The revised DSMs are not without critics. Some controversy stemmed from the way specific disorders were selected for inclusion—essentially by consensus of experts who did not represent the full spectrum of mental health professionals. In addition, the detailed criteria for specific disorders make diagnosis formulaic, diminishing the role of clinical judgment. However, the increased reliability of diagnosis is generally considered to outweigh these criticisms. As stated by one researcher, “We are better off having it than not” (42).

While the diagnostic categories listed in DSM-III and DSM-III-R may lead to more reliable diagnoses, the validity of the categories remains uncertain (83). Validity refers to how well the description of a particular disorder reflects the true attributes of a causative factor or disease process—that is, how well it reflects what patients really have and what physicians really see. Mental disorders are classified on the basis of symptoms because there are as yet no

¹ The Research Diagnostic Criteria (RDC) was a forerunner of DSM-III (91). It is also used for research purposes.

² While DSM-III and ~-R are neutral regarding the cause of distinct disorders, they are not strictly atheoretical. They apply a categorical model (36) to diagnosis; that is, their vantage point is one of delimiting categories of disorders in line with the traditional medical approach. Other models for mental disorders are also possible.

biological markers or laboratory tests for them. Such groupings, therefore, may not be completely valid—similar symptoms may result from a variety of causes. The validity of very few diagnostic categories in the DSM has been demonstrated; in fact, methods for evaluating diagnostic validity have been proposed, among them studying the course of symptoms over time and the eventual outcome of the disorder, patients' responsiveness to treatment, the concentration of the disorder within families, and biological and psychological measures (81). Alternative approaches to research, such as evaluating the biology of particular symptoms, are also important in understanding psychopathology. Obviously, pinpointing the causes of mental disorders would go a long way toward specifying their boundaries and validating the way in which they are categorized. As one researcher states:

Few psychiatric disorders have yet been adequately validated and it is still an open issue whether there are genuine boundaries between the clinical syndromes and normality. In the long run validation depends on the elucidation of etiological process (58).

A DESCRIPTION OF THE MENTAL DISORDERS

Despite the fact that defining mental disorders in general and determining their boundaries specifically are difficult tasks, there is no doubt that the disorders considered in this report—schizophrenia, bipolar disorder, major depression, obsessive-compulsive disorder, and panic disorder—are genuine and often severe. They generally emerge in late adolescence or early adulthood (19). They are chronic and disabling, sometimes ravaging patients over the entire course of their adult lives. The following sections provide an overview of each disorder, summarizing their symptoms, classification, prevalence, course, and most common treatment. Boxes throughout the chapter describe individual experiences with some of the disorders.

Schizophrenia

Schizophrenia “is arguably the worst disease affecting mankind” (74) (box 3-A). It assails thought, perception, emotion, behavior, and movement, distorting an individual's personal experience of life and crippling his or her ability to participate in society.

Table 3-1—The Diagnosis of Schizophrenia

- A. Presence of characteristic psychotic symptoms in the active phase: either (1), (2), or (3) for at least 1 week (unless the symptoms are successfully treated):**
- 1: Two of the following:
 - a) delusions;
 - b) prominent hallucinations throughout the day for several days or several times a week for several weeks, each hallucinatory experience not being limited to a few brief moments;
 - c) incoherence or marked loosening of associations;
 - d) catatonic behavior;
 - e) flat or grossly inappropriate affect (emotional tone).
 2. Bizarre delusions, i.e., involving a phenomenon that the person's culture would regard as totally implausible (e.g., thought broadcasting, being controlled by a dead person).
 3. Prominent hallucinations [as defined in (1)(b) above] of a voice with content having no apparent relation to depression or elation, or a voice keeping up a running commentary on the person's behavior or thoughts, or two or more voices conversing with each other.
- B. During the course of the disturbance, functioning in such areas as work, social relations, and self-care is markedly below the highest level achieved before onset of the disturbance.**
- C. Schizoaffective disorder (a combination of schizophrenia and mood disorder symptoms) and mood disorder (mania or depression) with psychotic features have been ruled out.**
- D. Continuous signs of the disturbance are seen for at least 6 months.**
- E. It cannot be established that an organic factor (brain tumor or trauma, drug intoxication, etc.) initiated and maintained the disturbance.**
- F. If there is a history of autistic disorder, the additional diagnosis of schizophrenia is made only if prominent delusions or hallucinations are also present.**

SOURCE: American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*, 3rd ed., rev. (Washington, DC: American Psychiatric Association, 1987), as edited by 1.1. Gottesman, *Schizophrenia Genesis: The Origins of Madness* (New York, NY: W.H. Freeman and Co., 1991).

Schizophrenia is not split personality, a commonly held misperception (100). Its hallmark is a disturbance of cognition, the processing of information (table 3-1) (9,42,95,97). Components of thought may become dissociated or fragmented, the flow of thought interrupted. Schizophrenia typically impairs the ability to integrate information, to reason, to concentrate, or to focus attention or purpose. The consequence is often an observed vagueness, illogicality, and bizarreness of thinking that, when severe, restricts interpersonal communication.

Individuals with schizophrenia experience delusions and hallucinations. Delusions are beliefs that are clearly implausible but that are compelling and central to an individual's life experience. Persons with this disorder may be suspicious or paranoid in nature. For example, a patient may believe that he or

Box 3-A--One Day in the Life of Sylvia Frumkin

Shortly after midnight on Friday, June 16, 1978, Sylvia Frumkin decided to take a bath. Miss Frumkin, a heavy, ungainly young woman who lived in a two-story yellow brick building in Queens Village, New York, walked from her bedroom on the second floor to the bathroom next door and filled the tub with warm water. A few days earlier, she had had her hair cut and shaped in a bowl style, which she found especially becoming, and her spirits were high. She washed her brown hair with shampoo and also with red mouthwash. Some years earlier, she had tinted her hair red and had liked the way it looked. She had given up wearing her hair red only because she had found coloring it every six weeks too much of a bother. She imagined that the red mouthwash would somehow be absorbed into her scalp and make her hair red permanently. Miss Frumkin felt so cheerful about her new haircut that she suddenly thought she was Lori Lemaris, the mermaid whom Clark Kent had met in college and had fallen in love within the old "Superman" comics. She blew bubbles into the water.

After a few minutes of contented frolicking, Miss Frumkin stepped out of the tub. She slipped on the bathroom floor—it was wet from her bubble-blowing and splashing—and cut the back of her head as she fell. The cut began to bleed. She attempted to stop the bleeding by applying pressure to the cut, then wrapped her head in a large towel and walked back to her bedroom. On the dresser was a bottle of expensive perfume that an aunt and uncle had given her in May as a thirtieth-birthday present. She poured the contents of the bottle on her cut, partly because she knew that perfume contained alcohol and that alcohol was an antiseptic . . . and partly because she suddenly thought that she was Jesus Christ and that her bleeding cut was the beginning of a crown of thorns. She also thought that she was Mary Magdalene, who had poured ointment on Christ. . . .

Miss Frumkin's head burned when the perfume came in contact with the open cut, and the bleeding subsided but didn't altogether stop. By then, it was after one o'clock. She put on an old nightgown and went downstairs to the office of the building to tell the night supervisor, Dwight Miller, who was on duty from midnight until eight-thirty, what had happened. Miller looked at the cut, told Miss Frumkin to get dressed, and said he would drive her to the emergency room. . . .

As Miller started the car, turned on the car radio, and began to drive toward the hospital, Miss Frumkin seemed to get excited. The radio was playing Paul McCartney's song "The Lovely Linda," and he was singing the words "La, la, la, la, la, the lovely Linda." Unknown to Miller, Miss Frumkin thought that McCartney was singing the lyrics sarcastically, because he had fallen in love with her and was no longer in love with Linda, his wife. Miss Frumkin began to talk fervently to the radio. Miss Frumkin and Miller arrived at the emergency room of L. I. J.-Hillside at two o'clock. Miss Frumkin was first interviewed and examined by a nurse. For a few minutes, she was in sufficient control of herself to let the nurse take her vital signs, test her neurological responses, and look at her cut, and to answer the questions the nurse asked. . . . She became upset while she was waiting to see a doctor and an X-ray technician (she began to speak rapidly, and what she said concerned suffering from hypoglycemia and Wilson's disease and being Cinderella, and didn't make much sense); more upset when the X-ray technician took X rays of her skull and the doctor sewed up the cut (Miss Frumkin was so agitated that the doctor succeeded in putting in only three of five silk sutures he had intended to put in); and still more upset when it turned out that there would be a fairly long wait for the skull X rays to be read, Miss Frumkin got so obstreperous while she and Miller were waiting in the main area of the emergency room that they were shown into one of the small treatment rooms off to one side that the hospital uses to give people privacy, where they were joined by a hospital security guard. In the small treatment room, Miss Frumkin's conduct became increasingly bizarre. She took off all her clothes, accused Miller of kidnapping her and making sexual advances, and then asked Miller and the security guard to have sexual relations with her, saying she hadn't had sex with a man in 5 years. The minute the two men would cover Miss Frumkin with a hospital gown, she would disrobe again.

Around three o'clock, Dr. Conrad Aaronson, a psychiatric resident, came to observe and question Miss Frumkin. . . . His impression of Miss Frumkin's condition was that it was an acute exacerbation of chronic schizophrenia—one of the most common forms of serious mental illness in the world. Dr. Aaronson found that Miss Frumkin was in no shape to return to her room in Queens Village. He wrote in his report, at 4:15 a.m., "Patient removed all her clothing and began chanting and praying on the floor at the conclusion of the interview. . . . Patient is in need of emergency hospitalization as she represents a danger to herself and to others in her present condition.

Miss Frumkin was asked if she would like to be admitted to the psychiatric division of L. I. J.-Hillside. . . . [S]he refused to be admitted there. Instead, she asked to be taken to the Creedmoor Psychiatric Center, in Queens Village—a State mental institution that serves the two million people who live in Queens. . . . She had been a patient there until about two weeks earlier—from May 9, 1978 to May 31, 1978. . . . Miss Frumkin returned to Creedmoor . . . at five-thirty, just as the sun was rising. . . .

It was after eleven o'clock in the rooming on Friday, June 16, by the time Miss Frumkin had been screened for admission by Dr. Sun, had changed into State clothes, and had taken a chair in the women's day hall. Soon she was on her feet, hurrying over to the nurse on duty. She demanded to use the telephone. When the nurse told her she would have to wait until another patient had finished making a call, Miss Frumkin screamed at her. The nurse escorted her to the telephone a few minutes later. Miss Frumkin dialed the extension of Dr. Werner, Creedmoor's director. She tried to tell Dr. Werner's secretary her troubles, but became incoherent. The nurse and a therapy aide had to struggle with her to get her to put the telephone down. The nurse, who had been at the admission screening, then led Miss Frumkin to the treatment room and tried to give her the injection of Thorazine that Dr. Sun had ordered that she be given immediately for agitation. Miss Frumkin refused the injection. She said she would take Thorazine orally instead. . . . Between sips of the bad-tasting Thorazine, Miss Frumkin called the nurse a jerk, a slut, and a dodo. After Miss Frumkin's insults became threats and she started to hit the nurse, the nurse went to Dr. Sun, caught him just as he was leaving, and got him to write out a seclusion order, which went into effect at twelve-fifteen. Once Miss Frumkin had been put in the seclusion room, she flopped down on the mattress as if she were relieved to be there. A few minutes later, a therapy aide brought her lunch on a tray. Miss Frumkin, who had been mumbling unintelligibly, took the tray, wolfed down the food, and handed the tray back. She soon lay down and dozed off. When the seclusion order expired, at two-fifteen, the door to the room was opened Miss Frumkin was asleep. She was left in the room to sleep, with the door open.

Miss Frumkin awakened shortly before four, but she appeared content to stay in the quiet room. Around five o'clock, she felt hungry, got up, and walked into the day hall. When the door to the dining room corridor was opened, she went into the corridor and stood in line with the other patients, whispering to herself. . . .

After shoveling into her mouth three helpings of everything served at dinner on June 16, Miss Frumkin returned to the day hall, settled into an easy chair, and watched television quietly. At nine o'clock she took the 50 milligrams of Mobar that Dr. Khanna had prescribed for her. A therapy aide on the evening shift let her watch TV until ten-thirty before taking her into the dormitory, where the other women were already asleep. She assigned Miss Frumkin an empty bed next to a window. . . . Although Miss Frumkin had had little sleep in the last thirty-six hours, she wasn't tired. She got into bed without taking her clothes off and lay quietly under the sheets and under the bedspread, which the therapy aide had forgotten to remove.

A few minutes after the night shift came on duty, Miss Frumkin got out of bed. She walked hurriedly down the long corridor from the dormitory to the day hall. She then headed back toward the dormitory, but stopped at the employees' lunchroom when she saw a short, stocky black woman named Bernice Parrott sitting there. Miss Frumkin told her that there was some **water** on the floor of the day hall and asked her if she had a mop. When Mrs. Parrott replied that she didn't, Miss Frumkin warned her that if she didn't mop up the water she would report her to the night supervisor. Mrs. Parrott asked Miss Frumkin to go back to bed, and said she would take care of the water. Mrs. Parrott went into the day hall, found a puddle of urine on the floor, and went to the utility room to get a mop. When she returned to the day hall carrying the mop, she found Miss Frumkin standing a few feet from the puddle. Miss Frumkin ordered Mrs. Parrott, at the top of her voice, to clean up the day hall. Before Mrs. Parrott could clean anything, Miss Frumkin ran over to her and demanded the mop. Mrs. Parrott held onto the mop with all her strength, fearful of what Miss Frumkin would do with it if she got her hands on it. Miss Frumkin grabbed Mrs. Parrott's dress, struck her several times on the head with her fist, kicked her, and tried to bite her, screaming "Nigger, I'll nix you!" as she fought to gain possession of the mop. Mrs. Parrott was in pain, but she whirled around, pinned Miss Frumkin against a wall, pried herself loose, and ran to the nearest telephone, which was in the ward office. She hurled the mop through an open door to the employees' toilet, in the far corner of the office, picked up the telephone, and called the night supervisor, who was in the secretaries' office in the central corridor watching some members of the night shift sign in. Meanwhile, with her free hand Mrs. Parrott continued to fend off Miss Frumkin, who had followed her into the office and was still after the mop. Mrs. Parrott and Miss Frumkin wrestled; Mrs. Parrott succeeded in bringing Miss Frumkin to the floor and was able to hold her until the night supervisor came to her assistance. . . .

Mrs. Parrott and the night supervisor put Miss Frumkin into an empty seclusion room. Miss Frumkin was banging furiously on the door of the seclusion room. The nurse telephoned the doctor on night duty. . . and he gave her a verbal order to put Miss Frumkin in seclusion for two hours. Mrs. Parrott and the night supervisor helped the nurse hold Miss Frumkin down so that the nurse could give her the Thorazine injection for agitation. . . Miss Frumkin remained agitated all night. . . .

SOURCE: Quoted from S. Sheehan, *Is There No Place on Earth for Me?* (Boston, MA: Houghton Mifflin, 1982) Copyright © 1982 by Susa Sheehan. Reprinted by permission of Houghton Mifflin Co.

she is a historical figure or that someone has placed a transmitter in his or her brain. Hallucinations are perceptions without an objective basis. They most commonly take the form of voices or, less frequently, visions, bodily sensations, tastes, or smells. The voices appear to originate from an external source. They tend to be highly personal and may direct the patient to do some act, sometimes commanding self-mutilation or other violent behavior.

Another prominent feature of schizophrenia is impairment of emotional responsiveness. There is a dulling of emotions or an inappropriateness of emotional response. Many individuals with schizophrenia exhibit a “wooden” personality, displaying traits of diminished drive, curiosity, or spontaneity. Schizophrenia may also lead to a disturbance of movement. Patients may grimace involuntarily, walk awkwardly, or suffer impairment of a broad range of subtle movements.

Delusions, hallucinations, and impairments in thought that are marked by incoherence, illogicality, or bizarre behavior together constitute the “positive” symptoms of schizophrenia. These symptoms are typical of psychosis (7); however, schizophrenia and psychosis are not synonymous. Psychosis can accompany other disorders, such as mood disorders, drug-induced reactions, temporal lobe epilepsy, Huntington’s disease, encephalitis, and syphilis. There are many pathological features of schizophrenia that are not psychotic, such as the blunting of emotions, apathy, and social withdrawal, all “negative” symptoms of schizophrenia (6,7).

While schizophrenia has been well-characterized as a disorder, symptoms vary widely among patients. Symptoms combine in various ways, and they change over time. This variability has raised questions about how best to conceptualize schizophrenia. Is it a single disorder? A group of disorders? A conglomerate of several disease processes? What is its relationship to other mental disorders?

German psychiatrist Emil Kraepelin was the first to consolidate the diverse manifestations of schizophrenia under a single rubric—*dementia praecox*, or dementia of the young (62). Eugen Bleuler introduced the term schizophrenia, referring to a split in mental activities, in 1911 (16). This name emphasizes what Bleuler thought was the primary pathology: the dissociation of thoughts, emotion, and behavior. This conception of a single underlying disease process has endured. Those who support this

concept assert that a unified cause or mechanism produces the various symptoms of the disorder. The fact that the varying manifestations of schizophrenia appear to be genetically related (see ch. 5) and that they often respond to similar treatment approaches supports the single-disorder model.

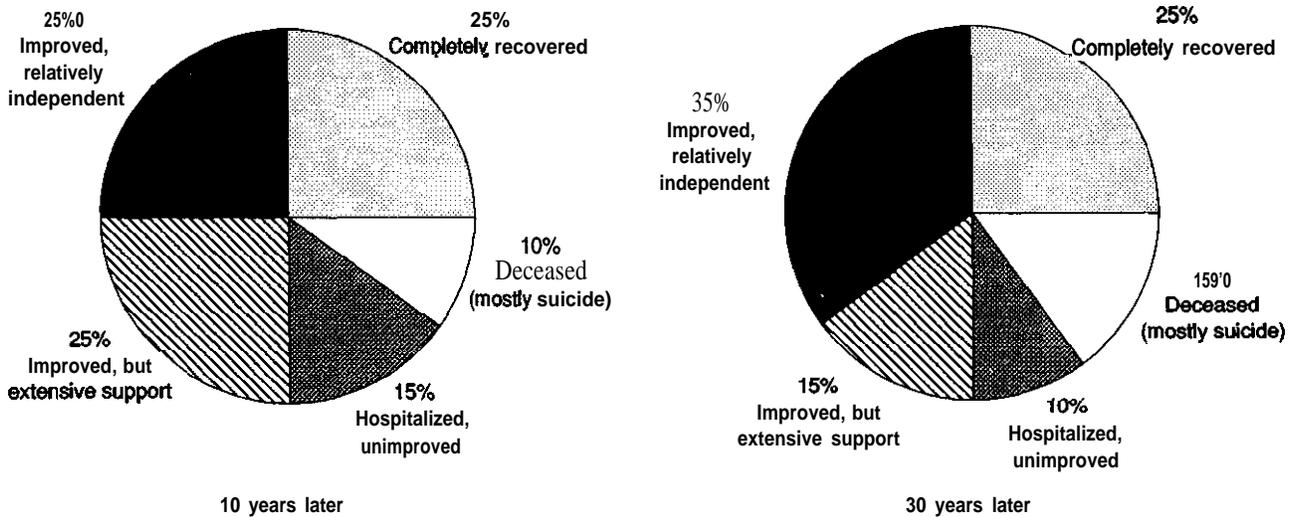
Another model considers schizophrenia to be a clinical syndrome rather than a single disease entity (97). This view holds that although schizophrenia can legitimately be distinguished from other mental disorders (e.g., mood disorders), it has more than one cause. This has led some persons to refer to it as *the schizophrenias*. Because schizophrenia is such a complex disorder and its underlying pathology remains elusive, many expect that more than one cause will eventually be discovered.

Some researchers have proposed that distinct disease processes independently produce some of the symptoms of schizophrenia; that is, no single culprit causes all of the symptoms of schizophrenia. While, certain symptoms do appear to occur semi-independently (20,93,94)—for example, the extent of psychosis is only modestly associated with the extent of social impairment—further study is necessary to test this hypothesis.

Schizophrenia may be related to other mental disorders. Certain personality disorders, typified by eccentric behavior, excessive suspiciousness or paranoia, or extreme indifference to others, are considered part of the schizophrenia spectrum by many researchers, since they resemble schizophrenia and tend to run in families with the disorder (see ch. 5). Some have suggested that mood disorders with psychotic symptoms may also be related to schizophrenia (24,35). Similarly, schizoaffective disorder, which is typified by symptoms of schizophrenia and major mood disorders, has been thought to stem from some of the same causes as schizophrenia. A relationship between mood disorders and schizophrenia is suspected because many persons exhibit symptoms common to both categories of disorders.

Schizophrenia is a common disorder. Approximately 1 of every 100 persons will develop schizophrenia during the course of his or her lifetime (30,55,84). That translates into 1.2 million people with schizophrenia in the United States today. Men and women appear to be at equal risk, although schizophrenia generally strikes men at a younger age

Figure 3-1—The Course of Schizophrenia



While schizophrenia does not lead inevitably to lifelong disability, the majority of individuals with this condition suffer long-term consequences.

SOURCE: Adapted with permission from E.F. Torrey, *Surviving Schizophrenia: A Family Manual*, rev. ed. (New York, NY: Harper & Row, 1988).

and women generally have a better long-term prognosis.

Demographic data on schizophrenia paint a picture of considerable social and economic distress (55,95). Individuals who have never been married or who are divorced or separated suffer schizophrenia two to three times as often as their married or widowed counterparts. Compared to the general population, individuals with schizophrenia are less likely to hold a college degree or to be employed. If employed, they are likely to earn less than persons without schizophrenia. Studies have consistently shown that schizophrenia occurs more often among persons in lower socioeconomic groups: It is five times more prevalent among those at the bottom of the socioeconomic ladder than those at the top.³

There is a long-standing tendency among both professionals and laypersons to presume that schizophrenia invariably follows a deteriorating course, resulting in an exceptionally poor outcome in most cases. This assumption has always been incorrect. Patients suffering from the disorder have followed a variety of courses over the long term, including some that are relatively benign (figure 3-1). It is true,

however, that there are substantial and enduring consequences for most patients.

One of the hallmarks of schizophrenia is its early onset, usually during the late teens and early 20s (22). Onset of schizophrenia may be sudden, with an unexpected development of psychosis, or it may be insidious, with the earliest signs occurring years before the blatant symptoms of psychosis. Early signs include emotional withdrawal, diminishing social engagement, low energy, and idiosyncratic responses to ordinary events or circumstances. School performance, social interaction, and emotional responsiveness may erode gradually, well in advance of the onslaught of hallucinations, delusions, and disorganized thought processes. A more sudden onset usually results in a more favorable outcome.

Psychotic symptoms may persist over an extended period of time, with the patient never achieving full recovery, or they may be episodic, with periods of psychosis followed by relatively complete recovery (96). A substantial number of patients continue to manifest symptoms of schizophrenia throughout their lives. The expressed symp-

³ Two hypotheses have been put forth to explain the higher rates of schizophrenia among persons in lower socioeconomic groups: the breeder hypothesis and the downward drift hypothesis. Simply stated, the breeder hypothesis holds that social stress, such as poverty, causes schizophrenia. The downward drift hypothesis states that the disorder itself leads to downward social mobility (29,42).

Box 3-B—The Final Symptom: Mental Disorders and Suicide

In 1987, 11.7 people in every 100,000—more than 30,000 people—killed themselves in the United States, making it the eighth leading cause of death in the nation. While many factors are associated with suicide, including medical illness, availability of arms, or stressful events such as a divorce or loss of a job, data indicate that mental disorders are a significant antecedent to many suicides in the United States. About 50 percent of all suicide victims may have suffered a mood disorder, and an estimated 5 to 10 percent of suicide victims suffered from schizophrenia.

Among people with schizophrenia suicide is the number one cause of premature death, with the estimated age-adjusted suicide rate averaging 90 per 100,000 women with schizophrenia and 210 per 100,000 men with the disorder, 10 to 15 percent of individuals with schizophrenia commit suicide. The higher rate of suicide among men versus women with schizophrenia not only mirrors the suicide statistics in the general population, but also reflects the more severe symptoms that men usually suffer. Some people with schizophrenia may commit suicide as a result of a psychotic episode—in response to a hallucinatory command. More commonly, however, people with this condition take their lives early in the course of the illness during a relatively stable period following a recent hospitalization.

Approximately 15 percent of people with mood disorders will commit suicide, with the suicide rates for men and women with major mood disorders averaging 400 and 180 per 100,000, respectively, 30 times higher than the rate in the general population. The link between mood disorders and suicide is well recognized, with recurrent thoughts of suicide or a suicide attempt being diagnostic criterion for these conditions. Other mental disorders, such as panic disorder, also appear to be correlated with suicide. Although there is little information available concerning the number of people with panic disorder who actually commit suicide, survey data show that approximately 20 percent of people with this condition will attempt suicide during their lifetime.

High rates of suicide among individuals with major mental disorders like schizophrenia or major depression provide chilling evidence of the distressing nature of mental disorders. Furthermore, the strong correlation between mental disorder and suicide indicates that general suicide prevention efforts must include strategies to improve the treatment of mental disorders.

SOURCES: C.B. Caldwell and I.I. Gottesman, "Schizophrenics Kill Themselves Too: A Review of Risk Factors for Suicide," *Schizophrenia Bulletin* 16(4):571-589, 1990; F.K. Goodwin and K.R. Jamison, *Manic-Depressive Illness* (New York, NY: The Oxford University Press, 1990); J. Johnson, M.M. Weissman, and G.L. Klerman, "Panic Disorder, Comorbidity, and Suicide Attempts," *Archives of General Psychiatry* 47:805-808, 1990; E.K. Moscicki, chief, Prevention Research Branch, National Institute of Mental Health U.S. Department of Health and Human Services, personal communication Apr. 30, 1991; U.S. Department of Health and Human Services, Public Health Service, National Center for Health Statistics, *Monthly Vital Statistics Report* 40(8 suppl. 2), 1992.

toms may combine in various ways, their severity and duration fluctuating over time. Schizophrenia increases the risk of suicide considerably—some 10 to 15 percent of individuals with schizophrenia end their lives, usually within the first 10 years of developing the disorder (box 3-B). With age, the intensity of the psychotic symptoms may diminish, and many patients with long-term impairments regain some degree of social and occupational competence. Although schizophrenia may become easier to manage, the effects of years of dysfunction are rarely overcome.

Currently, there is no way to prevent or cure schizophrenia; however, the symptoms of the disorder can usually be treated. Treatment usually integrates antipsychotic drugs and supportive psycho-

therapy. Acutely ill individuals usually require hospitalization; antipsychotic medication; of which there are several chemical classes, is commonly used to manage psychosis (table 3-2) (10,50,65).⁴ While not as effective in modulating the negative symptoms of schizophrenia, antipsychotic drugs do diminish the positive symptoms. Furthermore, antipsychotic medications seem to affect the course of the disorder. Data indicate that continued use of these medications prevents the recurrence of psychotic episodes (50), and clinical experience suggests that the earlier antipsychotic medication is administered, the more benign the course of the disorder (108).

Antipsychotic drugs do have some limitations. As mentioned above, they are less effective in controlling the negative symptoms of schizophrenia. Also,

⁴In fact, schizophrenia is the most frequently reported diagnosis among individuals hospitalized for mental disorders, especially in State and county mental hospitals and Veterans Administration medical centers (68).

Table 3-2—Traditional Antipsychotic Medications

Chemical family	Generic name	Brand name
Phenothiazines	chlorpromazine	Thorazine and others
	thioridazine	Mellaril, Millazine
	mesoridazine	Serentil
	trifluoperazine	Stelazine, Suprazine
	perphenazine	Trilafon
	fluphenazine	Prolixin, Permitil
	triflupromazine	Vesprin
	prochlorperazine acetophenazine	Compazine Tindal
Butyrophenones	haloperidol	Haldol
	pimozide	Orap
	droperidol	Inapsine
Thioxanthenes	thiothixene	Navane
	chlorprothixene	Taractan
Dibenzoxazepine	loxapine	Loxitane
Dihydroindolone	molindone	Moban

SOURCE: R.J. Baldessarini, "Drugs and the Treatment of Psychiatric Disorders," *The Pharmacological Basis of Therapeutics* (New York, NY: Pergamon Press, 1990).

some patients do not respond to traditional antipsychotic agents. Finally, antipsychotic agents have some side effects, including dry mouth, constipation, blurring of vision, weight gain, restlessness, and tremor. The most serious side effect is tardive dyskinesia, which usually appears after taking the drug for some time. Tardive dyskinesia involves abnormal involuntary movements of the face, tongue, mouth, fingers, upper and lower limbs, and occasionally the entire body. It occurs in at least a mild form in 25 to 40 percent of patients on antipsychotic agents and may be severe or irreversible in 5 to 10 percent of cases (10,50).

A newer drug to treat schizophrenia—clozapine—has claimed the limelight in recent years. It was shown during the 1970s to help patients who were resistant to the therapeutic effects of standard antipsychotic drugs. However, clozapine can cause a potentially lethal blood disorder: 1 to 2 percent of the individuals who take it will develop agranulocytosis, which decreases the number of infection-fighting white blood cells (51,52). A recent large-scale study in the United States demonstrated clozapine's effectiveness in approximately one-third of those patients who were unresponsive to traditional antipsychotic medication (51,73,89). The study also showed that clozapine can be used with relative safety, as long as it is accompanied by careful monitoring for agranulocytosis. A number of new antipsychotic drugs are also being developed (43) (see ch. 4).

Psychosocial treatment is another important aspect of the treatment of schizophrenia (21,66). While individual psychotherapy based on psychodynamic principles has been shown to be ineffective, and perhaps even detrimental (45,59), supportive psychotherapy aimed at helping patients understand their illness, reducing stress, and enhancing coping abilities can reduce the amount of medication necessary and enhance patients' participation in treatment (90). Educating the family about the symptoms and nature of schizophrenia, as well as providing them with tools to deal with stress, is increasingly seen as important in the optimal management of schizophrenia (92).

Rehabilitation attempts to minimize the long-term consequences of schizophrenia rather than to treat the disorder itself. A wide range of rehabilitation programs has been shown to enhance social and occupational outcomes. These programs are adjuncts, but not alternatives, to antipsychotic medication and supportive psychotherapy.

Mood Disorders

Mood disorders, also referred to as affective disorders, are characterized by extreme or prolonged disturbances of mood, such as sadness, apathy, or elation (41,56). DSM-III-R divides mood disorders into two major groups: bipolar disorders and depressive disorders (3). The occurrence of manic symptoms distinguishes bipolar disorders from depressive, or unipolar, disorders.

The most severe depressive disorder is major depression (box 3-C). An episode of major depression is characterized by complete loss of interest or pleasure in activities (table 3-3). Other physical and psychological symptoms often accompany an episode of major depression, including weight gain or loss, insomnia or excessive sleepiness, slowed or agitated movement, diminished energy, intense feelings of guilt or worthlessness, diminished ability to concentrate, and recurrent thoughts of death or suicide. Major depression may entail a single episode or, more commonly, recurrent episodes; it may be chronic or extremely severe. Psychosis sometimes occurs as well. A review of 17 studies concluded that 15 percent of persons suffering from symptoms of depression will commit suicide (44) (see box 3-B).

Bipolar disorder, commonly known as manic depression, is a severe mood disorder characterized

Box 3-C-Darkness Visible: A Personal Account of Depression

Depression is a disorder of mood, so mysteriously painful and elusive in the way it becomes known to the self-to the mediating intellect-as to verge close to being beyond description. It thus remains nearly incomprehensible to those who have not experienced it in its extreme mode, although the gloom, 'the blues' which people go through occasionally and associate with the general hassle of everyday existence are of such prevalence that they do give many individuals a hint of the illness in its catastrophic form. But at the time of which I write I had descended far past those familiar, manageable doldrums. . . .

It was not really alarming at first, since the change was subtle, but I did notice that my surroundings took on a different tone at certain times: the shadows of nightfall seemed more somber, my mornings were less buoyant, walks in the woods became less zestful, and there was a moment during my working hours in the late afternoon when a kind of panic and anxiety overtook me, just for a few minutes, accompanied by a visceral queasiness-such a seizure was at least slightly alarming, after all. . . .

I felt a kind of numbness, an enervation, but more particularly an odd fragility-as if my body had actually become frail, hypersensitive and somehow disjointed and clumsy, lacking normal coordination. And soon I was in the throes of a pervasive hypochondria. Nothing felt quite right with my corporeal self; there were twitches and pains, sometimes intermittent, often seemingly constant, that seemed to presage all sorts of dire "infirmities. . . .

It was October, and one of the unforgettable features of this stage of my disorder was the way in which my own farmhouse, my beloved home for 30 years, took on for me at that point when my spirits regularly sank to their nadir an almost palpable quality of ominousness. The fading evening light-akin to that famous 'slant of light' of Emily Dickinson's, which spoke to her of death, of chill extinction-had none of its familiar autumnal loveliness, but ensnared me in a suffocating gloom. . . . That fall, as the disorder gradually took full possession of my system, I began to conceive that my mind itself was like one of those outmoded small-town telephone exchanges, being gradually inundated by flood waters: one by one, the normal circuits began to drown, causing some of the functions of the body and nearly all of those of instinct and intellect to slowly disconnect. . . .

What I had begun to discover is that, mysteriously and in ways that are totally remote from normal experience, the gray drizzle of horror induced by depression takes on the quality of physical pain. But it is not an immediately identifiable pain, like that of a broken limb. It may be more accurate to say that despair, owing to some evil trick played upon the sick brain by the inhabiting psyche, comes to resemble the diabolical discomfort of being imprisoned in a fiercely overheated room. And because no breeze stirs this cauldron, because there is no escape from this smothering confinement, it is entirely natural that the victim begins to think ceaselessly of oblivion,

SOURCE: Quoted from W. Styron, *Darkness Visible* (New York, NY: Random House, 1990). Copyright 1990 by William Styron. Reprinted by permission of Random House, Inc.

by one or more full manic episodes and one or more major depressive episodes. During a manic episode, mood is extremely elevated, expansive, or even irritable (table 3-4). Self-esteem is elevated, sometimes to delusional proportions; there is diminished need for sleep; energy abounds and thoughts race; individuals are often extremely talkative and distractible; and individuals indulge in unrestrained buying sprees or sexual and other activity. Psychotic features (i.e., delusions and hallucinations) are not uncommon during a manic episode.

There are several unresolved issues concerning the classification of mood disorders. As mentioned, some observers think that mood disorders, especially in the presence of psychosis, are related to schizophrenia. Individuals often exhibit symptoms of both categories of disorders. Other questions

concerning the classification of mood disorders include: "

- . Is depression a single disorder? A class of disorders?
- . How are less severe episodes of depression and other mental disorders related to major depression?
- . How is bipolar disorder related to major depression?

A recent report analyzing research on depression in women stated:

The common belief that depression varies along a single continuum from ordinary blues to major depression may be incorrect, because depressions may differ in kind as well as degree. Depression is heterogeneous (5).

Table 3-3—The Diagnosis of Depression

Note: A “Major Depressive Syndrome” is defined as criterion A below.

- A. At least five of the following symptoms have been present during the same two-week period and represent a change from previous functioning; at least one of the symptoms is either: 1) depressed mood, or 2) loss of interest or pleasure. (Do not include symptoms that are clearly due to a physical condition, mood-incongruent delusions or hallucinations, incoherence, or marked loosening of associations.)
1. depressed mood (or can be irritable mood in children and adolescents) most of the day, nearly everyday, as indicated either by subjective account or observation by others;
 2. markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated either by subjective account or observation by others of apathy most of the time);
 3. significant weight loss or weight gain when not dieting, or decrease or increase in appetite nearly every day;
 4. insomnia or hypersomnia nearly every day;
 5. psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down);
 6. fatigue or loss of energy nearly every day;
 7. feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick);
 8. diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others);
 9. recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.
- B. 1. It cannot be established that an organic factor initiated and maintained the disturbance.
2. The disturbance is not a normal reaction to the death of a loved one (uncomplicated bereavement).
- C. At no time during the disturbance have there been delusions or hallucinations for as long as two weeks in the absence of prominent mood symptoms (i.e., before the mood symptoms developed or after they have remitted).
- D. Not superimposed on schizophrenia, schizophreniform disorder, and others.

SOURCE: American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders, 3rd ed.*, rev. (Washington, DC: American Psychiatric Association, 1987).

There are various ways to conceptualize depression, based on its course, symptoms, association with other disorders, and severity (5). For example, it is known that symptoms of anxiety and depression often occur together (70). The fact that depression may be triggered by, or correlated with, different factors also suggests that depression is heterogeneous. For example, reproductive-related events (e.g., menstruation, pregnancy, childbirth, infertility, abortion, and menopause) are related to some cases of depression among women, who are at greater risk of depressive disorders than men (5). Seasonality has also been observed in depressive episodes—namely,

Table 3-4-The Diagnosis of Mania

Note: A “Manic Syndrome” is defined as including criteria A, B, and C below.

- A. A distinct period of abnormally and persistently elevated, expansive, or irritable mood.
- B. During the period of mood disturbance, at least three of the following symptoms have persisted (four if the mood is only irritable) and have been present to a significant degree:
1. inflated self-esteem or grandiosity;
 2. decreased need for sleep, e.g., feels rested after only three hours of sleep;
 3. more talkative than usual or pressure to keep talking;
 4. flight of ideas or subjective experience that thoughts are racing;
 5. distractibility, i.e., attention too easily drawn to unimportant or irrelevant external stimuli;
 6. increase in goal-directed activity (either socially, at work or school, or sexually) or psychomotor agitation;
 7. excessive involvement in pleasurable activities which have a high potential for painful consequences, e.g., the person engages in unrestrained buying sprees, sexual indiscretions, or foolish business investments.
- C. Mood disturbance sufficiently severe to cause marked impairment in occupational functioning or in usual social activities or relationships with others, or to necessitate hospitalization to prevent harm to self or others.
- D. At no time during the disturbance have there been delusions or hallucinations for as long as two weeks in the absence of prominent mood symptoms (i.e., before the mood symptoms developed or after they have remitted).
- E. Not superimposed on schizophrenia, schizophreniform disorder, and others.
- F. It cannot be established that an organic factor initiated and maintained the disturbance.

Note: Somatic antidepressant treatment (e.g., drugs, ECT) that apparently precipitates a mood disturbance should not be considered an etiologic organic factor.

SOURCE: American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders, 3rd ed.*, rev. (Washington, DC: American Psychiatric Association, 1987).

in seasonal affective disorder, or SAD. In this disorder, individuals have a characteristic onset of depression during the winter months, with remissions or changes from depression to mania during the spring (87). Depression can also appear in a very severe form. Melancholia is a severe form of depression wherein persons take virtually no interest or pleasure in activities and experience such somatic symptoms as early morning waking and weight loss.

While a categorical approach to depression may be convenient for selecting homogeneous groups for research or designing a treatment strategy, it does not preclude the possibility that depression is a single disorder. As stated in a recent psychiatric diagnostic text:

Affective disorders have been divided and subdivided endlessly as investigators endeavor to distinguish 'normal' from 'abnormal' mood . . . after a century there is still no agreement about the most satisfactory classification (40).

Family histories and longitudinal studies provide evidence that depression may constitute a continuum from the blues to medically recognized depression. For example, the immediate family of individuals with a mild mood disorder are more likely than other persons to have major depression (82). Also, many individuals with mild depression go on to suffer full-blown depression (1,105).

The basis for separating bipolar (manic-depressive) and unipolar (depressive) disorders into different categories of illness has been questioned. After a comprehensive review of the literature, however, Goodwin and Jamison conclude that studies evaluating family history, clinical symptoms and course, the response to pharmacological treatment, and other factors strongly support recognition of the distinction between these disorders (41). They also suggest that bipolar disorder and severe cases of recurrent depression may share important features (e.g., response to treatment with lithium) and encourage more research on the cycles in severe mood disorders.

Nearly 8 percent of the U.S. population will develop a mood disorder at some time during their lives (103,104). Bipolar disorder afflicts slightly less than percent of the population (0.8 percent), with men and women being affected equally. Nearly 5 percent (4.9 percent) of the population will develop major depression, which is twice as common in women as men. Substance abuse often coincides with major mood disorders (box 3-D).

Mood disorders appear to be increasing among younger people. Studies show that in this century each succeeding generation has reported an increased lifetime risk and earlier age of onset of major depression (60,101,103,106). Why the rates are increasing is not known. They may reflect an artifact of the data-collecting process, forgetfulness on the part of older individuals when surveyed, or a true increase in depression. Whatever the source of this "cohort effect," it is a significant consideration in certain types of research into depression (e.g., genetic research).

Mood disorders have various social correlates, including marital and employment status (103). Individuals with a mood disorder, especially bipolar disorder, are more likely never to have married or to have been divorced. Major mood disorders and socioeconomic status are not directly related (103). While schizophrenia is highly concentrated in the lower socioeconomic classes, bipolar disorder and major depression afflict individuals in every class and occupation. In fact, many highly successful and creative individuals have suffered a major mood disorder, suggesting a link between the disorder and creativity (49).

The onset of major depression typically occurs in the late 20s, although it can emerge at any time (56,103). Over 50 percent of patients will have more than one bout of major depression, the mean number being five or six episodes in a lifetime (64). The highest rate of relapse occurs during the months immediately following recovery from a previous episode (78).

Bipolar disorder typically begins in the mid-20s (41). Episodes of mania or depression emerge every several months to a year or more, with periods of recovery separating the mood swings. Some individuals exhibit rapid cycling, with multiple episodes in a single year. Manic episodes tend to begin rather abruptly, with mild symptoms quickly developing into a full-blown state of mania, sometimes with accompanying psychosis. Depressive episodes tend to begin more slowly. If untreated, episodes last 4 to 13 months, with depressive episodes generally outlasting manic ones. External events may trigger an episode, especially in the early phase of the disorder; with time, episodes of depression and mania emerge independent of outside events. Bipolar disorder is chronic, with the cycles of mania and depression, separated by periods of recovery, continuing throughout an individual's lifetime.

It is useful to conceptualize the treatment of mood disorders in three phases: treatment of acute episodes, continued treatment, and long-term maintenance, or prophylactic treatment (41,64). Acute treatment lasts from the beginning of a depressive or manic episode until its remission. This phase of treatment usually involves medication or electroconvulsive therapy (see later discussion) and psy-

Box 3-D—Alcohol, Drugs, and Mental Disorders

While alcohol and drug problems in society may not be attributable primarily to mental disorders, they are apparently exacerbated among people with mental disorders. Regier and colleagues (1990), in the most comprehensive study to date, found a high prevalence of comorbid (that is, occurring at the same time) mental disorders and alcohol or other drug disorders—including both abuse and dependence syndromes, as defined in the DSM-III-R (figure 3-2). They used data from NIMH's Epidemiologic Catchment Area (ECA) survey of 20~91 adults in the community and in various institutional settings (prisons, mental hospitals, nursing homes, and specialized treatment centers).

The study assessed the prevalence of comorbid alcohol, other drug, and mental disorders from the perspective of three categories of primary disorder: mental disorders, alcohol disorders, and other drug disorders. Schizophrenia, mood disorders, and anxiety disorders were among those studied. Specific drugs studied, in addition to alcohol, include marijuana, cocaine, opiates, barbiturates, amphetamines, and hallucinogens.

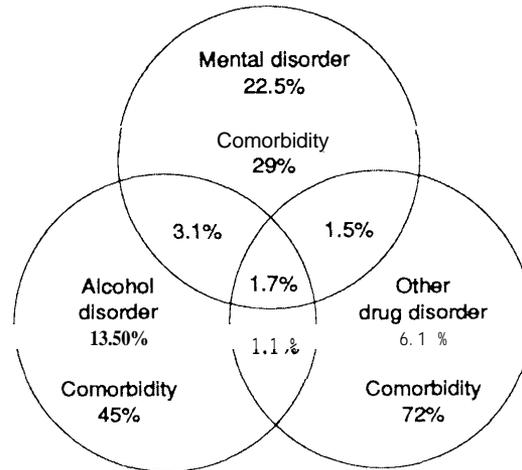
An estimated 13.5 percent of all adults in the United States will have a diagnosis of alcohol abuse or dependence: Of this number, 36.6 percent will have at least one mental disorder and 21.5 percent another drug disorder in their lifetime. Specific comorbid mental disorders found in people with alcohol abuse-dependence disorder include anxiety disorders (19.4 percent), mood disorders (13.4 percent), and schizophrenia (3.8 percent). Some 6.1 percent of the total adult population will have abused or been dependent on drugs other than alcohol at some time in their lives: Of this number, 53.1 percent will have a mental disorder and 47.3 percent will have an alcohol abuse-dependence disorder. Of people with comorbid mental disorders, 28.3 percent will have an anxiety disorder, 26.4 percent will have a mood disorder, and 6.8 percent will have schizophrenia.

At some time in their lives, 22.5 percent of all adults in the United States will have a diagnosis of mental disorder: Of this number, 22.3 percent will also have an alcohol abuse or dependence disorder, 14.7 percent will have a drug abuse-dependence disorder, and 28.9 percent will have either alcohol or drug disorders. Compared to individuals with no history of mental disorder, people with a diagnosis of mental disorder face twice the odds of having alcohol abuse-dependence and over four times the odds of drug abuse-dependence.

Comorbid alcohol and other drug abuse or dependence disorders occur frequently in people with the specific subtypes of mental disorders included in this study. Of those who develop schizophrenia and related disorders during their lifetime (approximately 1.0 percent of the U.S. population), 47 percent will abuse or be dependent on alcohol or other drugs, or both. Thirty-two percent of people with mood disorders (8.3 percent of the total adult population) will abuse or become dependent on alcohol, other drugs, or both. Within this group, over 60 percent of people with bipolar disorder will abuse or become dependent on alcohol, other drugs, or both. About 27 percent of people with major depression will have an alcohol or other drug disorder, or both, odds almost two times greater than those for people without major depression. The anxiety disorders, as a group, occur at some time in the lives of 14.6 percent of the population and are highly likely to be associated with an alcohol or other drug abuse or dependence disorder. For example, 35.8 percent of people with panic disorder and 32.8 percent of people with obsessive-compulsive disorder will have some form of alcohol or other drug abuse or dependence disorder.

SOURCES: R.E. Drake, F.C. Osher, and M.A. Wallach, "Alcohol Use and Abuse in Schizophrenia A Prospective Community Study," *Journal of Nervous and Mental Disease* 177:408-414, 1989; F.K. Goodwin and K.R. Jamison, *Manic-Depressive Illness* (New York, NY: The Oxford University Press, 1990); D.A. Regier, M.E. Farmer, D.S. Rae, et al., "Comorbidity of Mental Disorders With Alcohol and Other Drug Abuse: Results From the Epidemiologic Catchment Area (ECA) Study," *Journal of the American Medical Association* 264:2511-2518, 1990.

Figure 3-2-Substance Abuse and Mental Disorders



Epidemiological data suggest that there is a high degree of comorbidity for mental and addictive disorders in the United States. For example, 29 percent of individuals with a mental disorder will also have an addictive disorder.

SOURCE: D.A. Regier, M.E. Farmer, D.S. Rae, et al., "Comorbidity of Mental Disorders With Alcohol and Other Drug Abuse: Results From the Epidemiologic Catchment Area (ECA) Study," *Journal of the American Medical Association* 284: 2511-2518, 1990.

chotherapy; it may involve hospitalizations. Continued treatment consists of those interventions maintained from the time of a remission until a second episode would be expected to occur. Long-term maintenance is intended to prevent or attenuate future episodes.

The depressive and manic symptoms of mood disorders are generally well managed with a wide array of medications. Significant advances have occurred in the pharmacological treatment of major depression during the last decade (10). Traditional antidepressant medications include tricyclic antidepressants, monoamine oxidase inhibitors (MAOIs), and newer antidepressant drugs (table 3-5). Various other agents are under development (see ch. 4). A therapeutic response usually requires days to weeks; a good response is predicted on the basis of symptoms such as insomnia or weight loss, more severe symptoms, past episodes of depression, or a family history of mood disorders.

Antidepressant agents have varying side effects. Tricyclic antidepressants may lead to such side effects as a dry mouth, constipation, sedation, nervousness, weight gain, increased appetite, or diminished sexual drive. MAOIs, which are generally used for patients who fail to respond to tricyclic antidepressants, can interact with certain foods and medications, producing potentially fatal bouts of hypertension. Fluoxetine, or Prozac, is a newer antidepressant that produces fewer of these side effects, making it the most widely prescribed antidepressant agent in the United States in 1989. Prozac often facilitates weight loss. Its side effects include nausea, tremor, insomnia, and nervousness. A minority of patients may suffer from agitation or anxiety when using Prozac.⁶

Psychotherapy, either alone or as an adjunct to medication, is important in treating depression (37,38). Various psychotherapeutic approaches are used, including supportive psychotherapy, behavioral therapy, psychodynamic psychotherapy, cognitive therapy, interpersonal psychotherapy, and others (table 3-6). While studies have generally found psychotherapy to be an effective intervention in

Table 3-5—Medications for the Treatment of Depression

Class of medication	Generic name	Brand name
Tricyclic antidepressants	amitriptyline	Elavil, Endep
	nortriptyline	Aventyl, Pamelor
	protriptyline	Vivactil
	desipramine	Norpramin, Pertfran
	doxepin	Adapin, Sinequan
	imipramine	Tofranil, Imavate
Inhibitors	tranylcypromine	Parnate
	phenelzine	Nardil
Newer antidepressants	fluoxetine	Prozac
	sertraline	Zoloft

SOURCE: Adapted from American Psychological Association, *Women and Depression: Risk Factors and Treatment Issues* (Washington, DC: American Psychological Association, 1990).

depression, positive outcomes have not been linked to any particular approach (5,33,80,109). This suggests that some element or elements common to all forms of psychotherapy produce the positive effects.

In cases of severe depression, or when an individual is suicidal, hospitalization may be required. Electroconvulsive therapy (ECT) may also be used in these instances (4,15,88). ECT generally relieves symptoms of depression rapidly, but it results in memory loss for an indeterminate period of time following the procedure. In the case of SAD, phototherapy can be applied (87). This treatment involves exposure to bright artificial light in the early morning, in the evening, or at both times. It is generally effective in relieving the symptoms of depression in SAD, with few, if any, side effects.

The symptoms of bipolar disorder are treated with medication (41). Depressive episodes are treated with antidepressant drugs, as described above. Severe cases of mania require hospitalization. When psychosis accompanies bouts of mania, antipsychotic medication is indicated. Lithium carbonate is crucial in the treatment of bipolar disorder. It is used to diminish manic symptoms and to prevent new episodes from occurring. However, lithium does produce side effects, such as increased thirst and urination, memory problems, tremor, and weight gain, that may cause patients not to comply with treatment. Long-term treatment with lithium, which

⁵ Mood disorders account for the second most frequent diagnosis in inpatient facilities and for the largest percentage of patients in Private Psychiatric hospitals and nonfederal general hospitals (68).

⁶ Prozac has been under siege as a factor in suicide and other violent acts. The U.S. Food and Drug Administration has ruled that there is insufficient evidence indicting the drug.

Table 3-6—Psychotherapy and Depression

Modality	Definition
Behavioral therapy	A form of psychotherapy that focuses on modifying faulty behavior rather than basic changes in the personality. Instead of probing the unconscious or exploring the patient's thoughts and feelings, behavior therapists seek to eliminate symptoms and to modify ineffective or maladaptive patterns by applying basic learning techniques and other methods. (Examples: relaxation therapy, self-control therapy, social skills training.)
Cognitive therapy	A psychotherapeutic approach based on the concept that emotional problems are the result of faulty ways of thinking and distorted attitudes toward oneself and others. The therapist takes the role of an active guide who helps the patient correct and revise his or her perceptions and attitudes by citing evidence to the contrary or eliciting it from the patient. The therapist uses cognitive and behavioral techniques to correct distortions of thinking associated with depression, that is, pessimism about oneself, the world, and the future. Brief treatment.
Interpersonal psychotherapy	A form of psychotherapy in which the therapist seeks to help the patient to identify and better understand his or her interpersonal problems and conflicts and to develop more adaptive ways of relating to others. The therapist focuses on client's current interpersonal relationships. Helps clients learn more effective ways of relating to others and coping with conflicts in relationships. Brief, focused treatment.
Psychodynamic psychotherapy	Any form or technique of psychotherapy that focuses on the underlying, often unconscious factors (drives and experiences) that determine behavior and adjustment.

SOURCE: Adapted from American Psychological Association, *Women and Depression: Risk Factors and Treatment Issues* (Washington, DC: American Psychological Association, 1990).

is generally necessary, can have toxic effects on the thyroid gland, the kidney, and the nervous system. Lithium can also cause abnormalities in the fetuses of women taking the drug. The anticonvulsive drug carbamazepine is an alternative for persons who do not respond to lithium or are intolerant of its side effects. In addition to drug therapy, supportive psychotherapy is generally required to help patients understand and deal with symptoms of bipolar disorder.

Anxiety Disorders

In this age of crowding, traffic jams, time pressures, and media bombardment of our minds with horrific tragedies, it is no wonder that some people consider this the Age of Anxiety, as Leonard Bernstein entitled his symphony. Everyone experiences anxiety at some time—that diffuse feeling of unease or apprehension, usually of a vague or unknown threat. The manifestations of anxiety vary from individual to individual and may include a racing heartbeat, butterflies in the stomach, or a headache. It is different from fear, which is an immediate, strong response to sudden and imminent danger, such as a car approaching rapidly as one

crosses the street. Anxiety may produce a paradoxical effect—bringing about that which the person fears most. For example, a person who is anxious about public speaking may find himself or herself muted by anxiety. However, anxiety can serve a positive function—it can prompt actions that ward off potential threats to well-being. For example, anxiety about an upcoming exam may lead to increased study.

Anxiety can be pathological. According to the DSM-III-R, pathological anxiety can be separated into what are called anxiety disorders, including panic disorder, phobias, obsessive-compulsive disorder, posttraumatic stress disorder, and generalized anxiety disorder (3). Pathological symptoms of anxiety are often present in other disorders, notably depression (13,40,56,70). Although anxiety disorders are grouped together by their symptoms, they are quite different in how they are best treated, and they appear to have quite different causes. We concentrate on panic disorder and obsessive-compulsive disorder because the role of biological factors in causing them has been more fully explored and is considered by many to be paramount.

Box 3-E—The Auto Accident That Never Was

I'm driving down the highway doing 55 MPH. I'm on my way to take a final exam. My seat belt is buckled and I'm vigilantly following all the rules of the road. No one is on the highway--not a living soul.

Out of nowhere an Obsessive-Compulsive Disorder (OCD) attack strikes. It's almost magical the way it distorts my perception of reality. While in reality no one is on the road, I'm intruded with the heinous thought that *I might* have hit someone . . . a human being! God knows where such a fantasy comes from.

I think about this for a second and then say to myself, "That's ridiculous. I didn't hit anybody." Nonetheless, a gnawing anxiety is born. An anxiety I will ultimately not be able to put away until an enormous emotional price has been paid.

I try to make reality chase away this fantasy. I reason, "Well, if I hit someone while driving, I would have felt it." This brief trip into reality helps the pain dissipate. . . but only for a second. Why? Because the gnawing anxiety that I really did commit the illusionary accident is growing larger--so is the pain.

The pain is a terrible guilt that I have committed an unthinkable, negligent act. At one level, I know this is ridiculous, but there's a terrible pain in my stomach telling me something quite different.

Again, I try putting to rest this insane thought and that ugly feeling of guilt. "Come on," I think to myself, "this is *really insane!*"

But the awful feeling persists. The anxious pain says to me, "*You Really Did Hit Someone.*" The attack is now in full control. Reality no longer has meaning. My sensory system is distorted. I have to get rid of the pain. Checking out this fantasy is the only way I know how.

I start ruminating, "Maybe I did hit someone and didn't realize it. . . . Oh my God! I might have killed somebody! I have to go back and check. Checking is the only way to calm the anxiety, It brings me closer to truth somehow. I can't live with the thought that I actually may have killed someone--I have to check it out. . . ."

I think to myself, "Rush to check it out. Get rid of the hurt by checking it out. Hurry back to check it out. God, I'll be late for my final exam if I check it out. But I have no choice. Someone could be lying on the road, bloody, close to death. Fantasy is now my only reality. So is my pain.

I've driven five miles farther down the road since the attack's onset. I turn the car around and head back to the scene of the mythical mishap. I return to the spot on the road where I "think" it "might" have occurred. Naturally, nothing is there. No police car and no bloodied body. Relieved, I turn around again to get to my exam on time.

Feeling better, I drive for about twenty seconds and then the lingering thoughts and pain start gnawing away again. Only this time they're even more intense, I think, "Maybe I should have pulled *off* the road and checked the side brush where the injured body was thrown and now lies? Maybe I didn't go *enough* back on the road and the accident occurred a mile farther back.

The pain of my possibly having hurt somebody is now so intense that I have no choice--I really see it this way.

I turn the car around a second time and head an extra mile farther down the road to find the corpse. I drive by quickly. Assured that this time I've gone far enough I head back to school to take my exam. But I'm not through yet.

"My God," my attack relentlessly continues, "I didn't get out of the car to actually *look* on the side of the road!"

Obsessive-Compulsive Disorder

Obsessive-compulsive disorder (OCD) is characterized by recurrent and persistent thoughts, images, or ideas that are experienced as intrusive and senseless (obsessions) and stereotypic, repetitive, and purposeful actions perceived as unnecessary (compulsions) (box 3-E) (79) (table 3-7). Individuals with OCD cannot resist these persistent ideas or impulses, although they view them as irrational and unwanted. One common manifestation of this disorder

is the obsessive feeling of being dirty or contaminated, which leads to the compulsion of repeated hand-washing (table 3-8). Hand-washing may be so frequent that the skin is rubbed raw. Another common obsession is excessive doubt, which leads to compulsive checking. For example, an individual fears that he or she has left the stove on or the door unlocked, resulting in his or her checking and rechecking the stove or door. The doubts often reflect concern for a dangerous outcome or a

So I turn back a third time. I drive to the part of the highway where I think the accident happened. I park the car on the highway's shoulder. I get out and begin rummaging around in the brush. A police car comes up. I feel like I'm going out of my mind.

The policeman, seeing me thrash through the brush, asks, "What are you doing? Maybe I can help you?"

Well, I'm in a dilemma. I can't say, "Officer, please don't worry. You see, I've got obsessive-compulsive disorder, along with 4 million Americans. I'm simply acting out a compulsion with obsessive qualities." I can't even say, 'I'm really sick. Please help me. The disease is so insidious and embarrassing that it cannot be admitted to anyone. Anyway, so few really understand it, including myself.

So I tell the officer I was nervous about my exam and pulled off to the roadside to throw up. The policeman gives me a sincere and knowing smile and wishes me well.

But I start thinking again. "Maybe an accident did happen and the body has been cleared off the road. The policeman's here to see if I came back to the scene of the crime. God, maybe I really did hit someone . . . why else would a police car be in the area?" Then I realize he would have asked me about it. But would he, if he was trying to catch me?

I'm so caught up in the anxiety and these awful thoughts that I momentarily forget why I am standing on the side of the road I'm back on the mad again. The anxiety is peaking. Maybe the policeman didn't know about the accident? I should go back and conduct my search more *thoroughly*.

I want to go back and check more. . . but I can't. You see, the police car is tailing me on the highway. I'm now close to hysteria because I honestly believe someone is lying in the brush bleeding to death. Yes . . . the pain makes me believe this. "After all," I reason, "why would the pain be there in the first place?"

I arrive at school late for the exam. I have trouble taking the exam because I can't stop obsessing on the fantasy. The thoughts of the mystical accident keep intruding. Somehow I get through it.

The moment I get out of the exam I'm back on the road checking again. But now I'm checking two things. First that I didn't kill or maim someone and second, that the policeman doesn't catch me checking. After all, if I should be spotted on the roadside rummaging around the brush a second time, how in the world can I possibly explain such an incriminating and aimless action? I'm totally exhausted, but that awful anxiety keeps me checking, though a part of my psyche keeps telling me that this checking behavior is ridiculous, that it serves absolutely no purpose. But, with OCD, there is no other way.

Finally, after repeated checks, I'm able to break the ritual. I head home, dead tired I know that if I can sleep it off, I'll feel better. Sometimes the pain dissipates through an escape into sleep.

I manage to lie down on my bed-hoping for sleep. But the incident has not totally left me--nor has the anxiety. I think, "If I really did hit someone, there would be a dent in the car's fender."

What I now do is no mystery to anyone. I haul myself up from bed and run out to the garage to check the fenders on the car. First I check the front two fenders, see no damage, and head back to bed. But. . . *did I check it well enough?*

I get up from bed again and now find myself checking the whole *body* of the car. I know this is absurd, but I can't help myself. Finally . . . finally, I disengage and head off to my room to sleep. Before I nod off, my last thought is, "I wonder what I'll check next?"

SOURCE: Description of OCD by a 36-year-old male professional who has the disorder, in J.L. Rapoport, *The Boy Who Couldn't Stop Washing* (New York NY: American Library, 1989). Reprinted by permission of Dr. Rapoport.

gnawing sense of guilt. Another common obsession is with symmetry or order, leading to the compulsion of repeatedly going in and out of a door or ordering and arranging various items.

Less frequently, an individual may be plagued only by obsessional thoughts, without any compulsions, such as a preoccupation with sexual or aggressive acts that are abhorrent to the individual. And finally, individuals may express what is called "an obsessional slowness." In this manifestation,

an individual takes hours to eat a single meal or to brush his or her teeth in a ritualistic fashion.

Many individuals with OCD also have another diagnosis, the most common being depression (54,79). In fact, OCD was once posited to be a type of mood disorder because of the intimate link between its symptoms and those of depression. Other problems that may be associated with OCD include other anxiety disorders, eating disorders, alcohol abuse, Tourette's syndrome, and psychosis. The comorbid-

Table 3-7—The Diagnosis of Obsessive-Compulsive Disorder

- A. Either obsessions or compulsions:**
Obsessions: (1), (2), (3), and (4):
1. recurrent and persistent ideas, thoughts, impulses, or images that are experienced, at least initially, as intrusive and senseless, e.g., a parent's having repeated impulses to kill a loved child, a religious person's having recurrent blasphemous thoughts;
 2. the person attempts to ignore or suppress such thoughts or impulses or to neutralize them with some other thought or action;
 3. the person recognizes that the obsessions are the product of his or her own mind, not imposed from without (as in thought insertion);
 4. if another Axis I disorder is present, the content of the obsession is unrelated to it, e.g., the ideas, thoughts, impulses, or images are not about food in the presence of an eating disorder, about drugs in the presence of a psychoactive substance use disorder, or guilty thoughts in the presence of a major depression.
- Compulsions:** (1), (2), and (3):
1. repetitive, purposeful, and intentional behaviors that are performed in response to an obsession, or according to certain rules or in a stereotyped fashion;
 2. the behavior is designed to neutralize or to prevent discomfort or some dreaded event or situation; however, either the activity is not connected in a realistic way with what it is designed to neutralize or prevent, or it is clearly excessive;
 3. the person recognizes that his or her behavior is excessive or unreasonable (this may not be true for young children; it may no longer be true for people whose obsessions have evolved into overvalued ideas).
- B. The obsessions or compulsions cause marked distress, are time-consuming (take more than an hour a day), or significantly interfere with the person's normal routine, occupational functioning, or usual social activities or relationships with others.**

SOURCE: American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders, 3rd ed., rev.* (Washington, DC: American Psychiatric Association, 1987).

ity of OCD and neurological disorders such as Tourette's syndrome suggests that they have the same anatomical basis (see ch. 4).

Recent epidemiological data indicate that OCD, once thought to be quite rare, afflicts approximately 2.6 percent of the U.S. population at some time during their lives (54). Men and women appear to be afflicted equally, although OCD may be slightly more common among women. The symptoms begin in childhood or adolescence in one-third to one-half of the individuals who develop the disorder; the average age of onset is 20. While the symptoms of OCD usually seem to be unprovoked, stressful life events may precipitate or exacerbate them. Sometimes symptoms recede completely with time, but most often patients suffer chronic OCD, with symptoms waxing and waning. Some patients,

however, suffer a continuous or deteriorating course; their symptoms may become so extreme that hospitalization is necessary. Followup studies of individuals who have been treated clinically show that the disorder is chronic and recurrent; at least 50 percent of those treated with psychotherapy or older drug therapies suffered from the disease for 7 to 20 years.

OCD was long thought to be resistant to treatment, with antidepressant drugs being prescribed to relieve the accompanying symptoms of depression (28). Currently there are two primary treatments for OCD that may be effective: behavioral therapy and/or medication (28,47,48,76). Behavioral therapy entails repeated exposure of the patient to the stimulus that sets off a ritualistic act. For example, if a patient has a compulsion to wash his or her hands 20 to 30 times a day, the patient's hands may be deliberately dirtied and the patient prevented from washing them. This approach seems to be more effective in treating compulsions than in treating obsessions. Medications acting on the brain chemical serotonin (see ch. 4) have proven quite effective, with the drug clomipramine (Anafranil) commonly used to treat OCD. The therapeutic effects of this drug may take days or weeks to manifest themselves, and this drug too may be more effective in treating compulsions than obsessions. The side effects of clomipramine are those typical of tricyclic antidepressants (see earlier discussion).

Panic Disorder

The hallmark symptom of panic disorder is a sudden, inexplicable attack of intense fear that is associated with powerful physical symptoms. A panic attack typically unfolds quite rapidly: In just a few minutes, an extreme sense of fear overtakes an individual, his or her heart begins racing, he or she starts to perspire—sometimes profusely—and he or she has trouble breathing (table 3-9). A single attack is short-lived, lasting 20 minutes to an hour on average. These symptoms often leave a patient believing that he or she is suffering from a heart attack or is losing his or her mind. Some patients go to the emergency room in the belief that they are about to die from a heart attack. In fact, many individuals with panic disorder seek general medical professional care at an increased rate (69). Individuals with panic disorder may receive repeated and extensive diagnostic testing for cardiac or neurological problems (61).

Table 3-8-Obsessions and Compulsions

Obsessions	Reported symptom at initial interview	
	(no.)	(%)
Concern with dirt, germs, or environmental toxins	28	(40)
Something terrible happening (fire, death, or illness of self or loved one)	17	(24)
Symmetry, order, or exactness	12	(17)
Scrupulosity (religious obsessions)	9	(13)
Concern or disgust with bodily wastes or secretions (urine, stool, saliva)	6	(8)
Lucky or unlucky numbers	6	(8)
Forbidden, aggressive, or perverse sexual thoughts, images, or impulses	3	(4)
Fear might harm others or oneself	3	(4)
Concern with household items	2	(3)
Intrusive nonsense sounds, words, or music	1	(1)

Compulsions	Reported symptom at initial interview	
	(no.)	(%)
Excessive or ritualized hand-washing, showering, bathing, tooth-brushing, or grooming	60	(85)
Repeating rituals (going in or out of a door, up or down from a chair)	36	(51)
Checking (doors, locks, stove, appliances, emergency brake on car, paper route, homework)	32	(46)
Rituals to remove contact with contaminants	16	(23)
Touching	14	(20)
Measures to prevent harm to self or others	11	(16)
Ordering or arranging	12	(17)
Counting	13	(18)
Hoarding or collecting rituals	8	(11)
Rituals of cleaning household or inanimate objects	4	(6)
Miscellaneous rituals (such as writing, moving, speaking)	18	(26)

^aThe most frequent obsessions and compulsions among 70 children and adolescents who were diagnosed as having OCD by the author and her colleagues at the National Institute of Mental Health (NIMH). The proportions total more than 100 percent because many sufferers have more than one symptom.

SOURCE: J.L. Rapoport, "The Biology of Obsessions and Compulsions," *Scientific American* 260(3):83-89, 1990.

Panic attacks occur about two times a week, although the frequency varies considerably among patients. One person's panic attack may be rare, having little effect on his or her functioning, while another's panic attacks and accompanying anxiety may be so intense that he or she remains completely sequestered at home (99). Individuals with panic disorder often exhibit other disorders. They may develop a fear of being in public places (agoraphobia), especially because they may be embarrassed or unable to leave a situation quickly. In fact, the majority of individuals diagnosed with agoraphobia are thought to have panic attacks, and approximately one-third of individuals with panic disorders also have agoraphobia (107). Depression and substance abuse are common among individuals with panic disorder (box 3-D), and these persons may experience other disorders more frequently also, including mitral valve prolapse, imitable bowel syndrome, asthma, and migraine headaches.

Data show that approximately one to two persons in 100 will develop panic disorder during their lifetime, with women being twice as likely to develop it as men (31,102). While panic attacks have been described in children and adolescents, the average age of onset is 24. Forty percent of patients experience the onset of panic disorder before the age of 30 (71).

A panic attack usually emerges unprovoked, although a stressful life event may precipitate it. As attacks continue to occur, they preoccupy the patient, and the patient may become generally anxious or depressed. Further research is needed to determine the long-term course of panic disorder; however, data suggest that many patients suffer chronic panic attacks, with the severity of symptoms waxing and waning over time (77).

Panic disorder is treated with medication or psychotherapy or both (12,25,75). Antidepressant

Table 3-9-The Diagnosis of Panic Disorder

- A. At some time during the disturbance, one or more panic attacks (discrete periods of intense fear or discomfort) have occurred that were: 1) unexpected, i.e., did not occur immediately before or on exposure to a situation that almost always caused anxiety, and 2) not triggered by situations in which the person was the focus of others' attention.
- B. Either four attacks, as defined in criterion A, have occurred within a 4-week period, or one or more attacks have been followed by a period of at least a month of persistent fear of having another attack.
- C. At least four of the following symptoms developed during at least one of the attacks:
1. shortness of breath (dyspnea) or smothering sensations;
 2. dizziness, unsteady feelings, or faintness;
 3. palpitations or accelerated heart rate (tachycardia);
 4. trembling or shaking;
 5. sweating;
 6. choking;
 7. nausea or abdominal distress;
 8. depersonalization or derealization;
 9. numbness or tingling sensations (paresthesias);
 10. flushes (hot flashes) or chills;
 11. chest pain or discomfort;
 12. fear of dying;
 13. fear of going crazy or of doing something uncontrolled.
- Note: Attacks involving four or more symptoms are panic attacks; attacks involving fewer than four symptoms are limited symptom attacks.
- D. During at least some of the attacks, at least four of the C symptoms developed suddenly and increased in intensity within ten minutes of the beginning of the first C symptom noticed in the attack.
- E. It cannot be established that an organic factor initiated and maintained the disturbance, e.g., amphetamine or caffeine intoxication, hyperthyroidism.
- Note: Mitral valve prolapse may be an associated condition, but does not preclude a diagnosis of panic disorder.

SOURCE: American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*, 3rd ed., rev. (Washington, DC: American Psychiatric Association, 1987).

drugs (see earlier discussion), including tricyclics (such as imipramine) and MAOIs (such as phenelzine), and anti-anxiety agents (such as the benzodiazepine alprazolam) are somewhat effective (11,71,107). The antidepressants generally require several weeks of administration before they become effective. Their side effects were discussed previously. Anti-anxiety agents act quickly and are therefore useful in acute situations. These medications may pose a risk of dependence, however, and thus may not be appropriate for long-term use (23). Behavioral therapy aimed at reducing phobic avoidance and anticipatory anxiety may help diminish panic attacks and the anxiety associated with them. Relaxation techniques may also be useful. Cognitive therapy, aimed at helping individuals restructure their think-

ing and develop a different way of looking at that which they fear, is also used. Cognitive and behavioral therapy usually diminish the severity and frequency of panic attacks. There is not enough information available to compare the effectiveness of psychotherapeutic and pharmacological approaches. Further information concerning the optimal duration of treatment is also necessary.

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