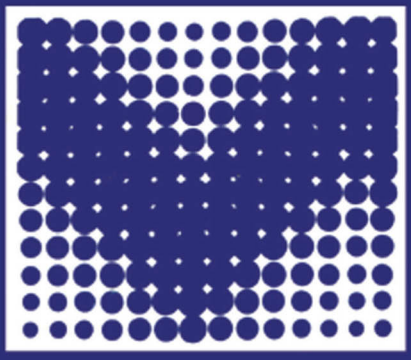
DEPRESSION in the MEDICALLY ILL

An Integrated Approach



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For
Ilana, Danielle, and Rebecca
Karen and Emily
Jim

Contents

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Introduction

"Everyone who is born holds dual citizenship, in the kingdom of the well and in the kingdom of the sick. Although we all prefer to use only the good passport, sooner or later each of us is obliged, at least for a spell, to identify ourselves as citizens of that other place" (SONTAG, 1977, p. 3).

Medical illness and depression are common experiences during the lifetime of many individuals. When these states coexist, it may be that depression is a complication of the medical illness, a cause of it, or a coincidental occurrence. Attempts to understand the relationships between depression and medical illness bring into bold relief all of the conundrums and controversies that persist regarding the nature of depressive affect, the etiologic mechanisms of depression, the validity of psychiatric diagnoses, and the implications of tragic life events for the diagnosis and management of psychiatric disorders.

That depression is associated with medical illness is consistent with the general literature on life events and depression. Paykel et al. (1969) reported that undesirable life events, including changes in physical health, are common occurrences during the six months before the onset of clinical depression. This association between life events and depression has been confirmed by a number of subsequent investigators (Brown & Harris, 1978; Benjaminsen, 1981; Fava et al., 1981; Roy et al., 1985; Hammen et al., 1986). Akiskal (1982) also reported that the co-occurrence of a medical illness is associated with incomplete recovery from primary depression. However, these studies do not fully elucidate the mechanisms by which medical illness is associated with depression. This issue is of considerable theoretical and practical importance since it has been shown that depression is common among those with chronic medical illness (Taube et al., 1988; Wells, Golding, & Burnam, 1988). Further, treatment of depression and other psychiatric conditions in such patients benefits from an understanding of etiologic mechanisms

and may contribute significantly to a reduction in nonpsychiatric health care utilization (Mumford et al., 1984).

A major factor that has complicated the study of the prevalence and mechanisms of depression in the physically ill is the difficulty in establishing valid diagnostic criteria for depression in these patients. The precise boundary between normality and pathology is always difficult to demarcate. However, this distinction becomes even more problematic in the face of the unusually stressful life circumstances that are often associated with a medical illness. A variety of perplexing questions arise in this regard. For example, when are the depressive symptoms that occur in this context manifestations of a serious psychiatric disorder, and when are they simply part of a nonpathological psychological response? Are there valid criteria to differentiate normal and adaptive psychological reactions from dysfunctional states and overt psychiatric disorders? When does a desire to discontinue life-sustaining medical treatment represent a rational decision and when does it signal clinical depression? When are symptoms such as apathy, anhedonia, fatigue or insomnia manifestations of a physical disease, and when do they reflect a depressive disorder? These questions and the diagnostic criteria for depressive disorders in the medically ill are a major emphasis of the first two chapters of this text.

We have ventured into the area of depression in the medically ill for a variety of reasons. We were certainly impelled by a wish to understand and better treat patients in the medical setting who presented with vague, puzzling, depresssion-like symptoms. We recall the apathetic, lethargic patient with diabetes, blindness, and renal failure who regarded his pessimism about the future as a realistic response to his life situation rather than as a manifestation of depression. We struggled with the appropriate psychiatric response to the elderly woman with a minor physical illness who attempted suicide to avoid the possibility of disability and helplessness in her declining years. We were perplexed by the young woman with persistent and unexplained fatigue who denied subjective feelings of depression. Such patients forced us to examine our biases and assumptions regarding depression and medical illness. We became aware that there were few definitive criteria and no "gold standard" to diagnose depression in this context. Furthermore, the response to antidepressant treatment in many such conditions has been insufficiently tested. We hoped that a systematic evaluation of studies of depression in different medical conditions would help to provide some clarity and precision regarding the diagnosis, etiology and treatment of depression in the medically ill.

Ultimately, our intrigue with the problem of depression in this

population likely stems from a basic interest common to most mental health professionals, namely the desire to understand varieties of human experience and forms of adaptation. Depression is central in this regard, not only because it commonly accompanies physical illness, but because it emanates from the core of human psychological experience during both normal and pathological adjustment.

We also hoped to generate interest in this subject among health professionals because we became aware that many do not identify, treat, or refer depressed medical patients for psychiatric assessment and intervention. Further, mental health professionals accustomed to treating the physically well are often unnecessarily reluctant to accept into their clinical practices, patients with serious medical illness. This reluctance is sometimes related to justifiable worry about the expertise and ability required to deal with the special demands and needs of these patients. However, hesitancy to undertake psychological treatments in the medically ill may also be related to a number of common myths, particularly about depression in these patients. Common misconceptions include the belief that most patients with a serious medical illness are depressed, that depression which is understandable as a reaction to severe circumstances does not require treatment, and/or that conventional treatments for depression are either ineffective or hazardous with such patients. Such false assumptions lead to unwarranted therapeutic nihilism regarding depression and other psychological disturbances in patients with physical illnesses. These misconceptions may lead clinicians not only to ignore potentially effective treatments for their medical patients who are depressed, but also to pay insufficient attention to the investigation and treatment of specific causes of depression in this context.

Although depression in nonmedical populations has been investigated extensively, from every conceivable point of view, the systematic study of mood disturbances among patients with a medical illness did not begin until the past decade. In fact, most earlier studies of mood disorders specifically excluded patients with serious physical illness, in order to preserve sample homogeneity. In recent years, depression has been studied systematically in numerous medical conditions and settings, but much of this research is fraught with conceptual and methodological problems and is complicated by numerous confounding variables. Indeed, the multiple manifestations of medical disease and the complex interactions among biological, psychological, and social variables pose formidable obstacles for systematic research. There is also still considerable confusion about a number of basic issues, such as the validity of standardized measures and diagnostic criteria for

depression in the medically ill, the actual prevalence of depressive disorders, the psychological mechanisms by which depression may occur in context, the protective value of social supports and personality traits, and the response to antidepressant treatment. Because of these unresolved questions, it has been a formidable task either to conduct or to interpret research on depression in the medically ill. In addition, knowledge has been fragmented in this field because most studies have focused on selected aspects of depression without integrating findings from related areas of study including neurobiology, psychoanalysis, and social psychology.

The present text is directed toward an integration and critical evaluation of the literature in this field from several perspectives. At the core of the book are five main issues:

1. The prevalence and effects of mood disorders in general medical samples and in patients with specific medical disorders.
2. Methodological issues related to the assessment and diagnosis of depression in the medically ill. This includes a discussion of the validity of psychiatric rating scales, structured diagnostic interviews, and diagnostic categories.
3. The psychological, social, and biological factors that may be associated with or contribute to depression in this population.
4. Psychotherapeutic approaches to the prevention and treatment of depressive disorders in the medically ill.
5. The efficacy and use of pharmacological approaches and electroconvulsive therapy in the treatment of depression in the medically ill.

There are a number of important aspects of depression in this population that we have not specifically addressed. These include depression in medically ill children, adolescents, and the elderly. In addition, we have not discussed depression in pregnancy and the post-partum period, or depression in association with other conditions or states that are not clearly related to medical illness. Finally, we have not specifically discussed depression secondary to other psychiatric disorders (e.g., dementia, eating disorders and addictions), although we recognize that these may commonly be associated with physical conditions and may often be seen in the general hospital setting. The primary focus of this text is the relationship of depression to chronic medical illness.

The organization of this text is based primarily on conceptual issues, rather than on medical diagnoses. Although we have drawn from research undertaken on patients with a wide variety of medical con-

ditions, we have not attempted to present an exhaustive review of the psychiatric and psychosocial literature regarding any one medical disorder. For clarity, we have divided some of the discussion according to biological, psychological, and social perspectives. However, although such divisions may help in presentation, we concur with those who consider each of these perspectives to be alternative and complementary, rather than competing approaches to the understanding of psychiatric disorders (e.g., Nemiah, 1989).

Throughout the book, and particularly in the first two chapters on diagnosis and classification, we attend to the distinction between psychiatric depressive disorders and nonpathological depressive symptoms. However, we have assumed that there is some similarity, if not a continuum, between clinical and subclinical depression. In addition, to have focused exclusively on strictly defined psychiatric disorders would have excluded subclinical states of dysphoria and distress experienced by medical patients that could well benefit from therapeutic intervention.

In assessing published research, we have given greater weight to studies that are methodologically rigorous. For example, in the section on the prevalence and epidemiology of depressive disorders, we have based our conclusions only upon studies that described diagnostic criteria in detail. Studies with less rigorous methodology are discussed separately in a section reviewing the occurrence of depressive symptoms, not necessarily associated with depressive disorders. Overall, stricter criteria were applied to those sections in which there is a considerable body of empirical research (e.g., the assessment and diagnosis of depression) compared with those areas in which there is relatively little empirical research (e.g., the psychodynamics and psychotherapy of depression in the medically ill).

We are keenly aware that a comprehensive approach to the understanding of depression must include not only reliable methods of measurement and diagnosis but also an understanding of the underlying phenomena that are being measured. As Faust and Miner (1986) observed, although measurement and precision are important in science, "in the long run, there is little to be gained by attempting to measure poorly understood things precisely and then multiplying our observations of them" (p. 966). Unfortunately, although psychiatric methodology has become more sophisticated in recent years, clinical concepts of affect and its disturbances have still tended to be somewhat reductionistic (Berrios, 1985). Although recent studies of depression in the medically ill tend to be more rigorous, research in this area has been particularly hampered by studies that have applied measurement tech-

niques without establishing either their conceptual basis or validity in the sample studied. Unfortunately, such limitations persist in much of the literature on depression in the physically ill. While a primary goal of this text is to summarize the best available research literature on the relevant topics, we are also interested in conveying to the reader, an appreciation of the human experience of depression in the context of physical illness.

Clinical and research investigations into depression and other psychiatric disturbances in the medically ill have too often been limited by approaches that are narrow and compartmentalized. One kind of compartmentalization, disease-specific research, tends not to take into account findings based on other medical conditions. Such research is important and necessary to understand the variability between illnesses, but its utility is enhanced when it is well grounded in concepts that are generalizable to other types of physical illness. Unfortunately, approaches to a broad range of medical illness in the literature have tended to be anecdotal, impressionistic, or else based upon observations of general medical samples in which documentation or quantification of the medical variables is minimal or absent.

Another kind of compartmentalization that affects investigations of depression in the medically ill involves what has been characterized as "hard" versus "soft" science. This distinction is typically dependent on whether or not observations are quantitative and/or theories are exact. We applaud the "hard" empirical research that has contributed to the refinement of diagnostic and assessment methods and to the evaluation of treatment modalities for depression. Without the strict application of this methodology, clinical observations could not be tested and refinement of knowledge would cease. However, an exclusive emphasis on empirical methods has led too often in psychiatry and psychology to neglect of the human drama and of the individual, interpersonal, and social contexts in which symptoms are found. In this regard, Kleinman (1988) has recently suggested that the narrow technological bias of modern biomedicine has led practitioners away from what he argues ought to be important aspects of medical care. He emphasizes that one of the most important functions of health care providers ought to be the "empathic witnessing" of the patient's existential experience and his or her practical efforts to cope with the major psychosocial crises of illness. We are in sympathy with this point of view. However, humanistic practitioners and theorists who have focused on the experiential aspects of medical illness have too often neglected scientific methods and ignored biological contributions to psychopathology. This bias has led to erroneous generalizations based

upon limited observations, and, unwittingly, to the discreditation of humanistic approaches within some quarters of the scientific community.

We hope that we have not fallen victim to the temptations of compartmentalized thinking regarding our subject. We have attempted to synthesize some of the vast literature on depression in the medically ill, to organize the discussion along conceptual lines, and to present a balanced and accurate perspective regarding the contribution of psychosocial and somatic contributions to depression in these patients. Our goal has been to present a scientific perspective on depression in the medically ill without neglecting the human dilemma involved. The reader must judge our success in this task.

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PART I

CLINICAL PRESENTATION

1

Assessment and Diagnosis: I

The assessment of depression is fraught with difficulty because of the uncertain, and at times, arbitrary, boundaries among its clinical, subclinical, and nonpathological forms. Controversies about the conditions under which mood changes should be regarded as pathological (see Klerman, 1981) are heightened in the medically ill. In that context, clinicians are called upon to differentiate symptoms of major depression not only from those of less severe adjustment disorders and nonpathological reactions to illness, but also from those symptoms that are more direct manifestations of physical disease. These distinctions are problematic both because there is a realistic basis for feelings of sadness associated with a serious medical illness, and because vegetative symptoms such as anorexia or loss of energy may be the result of the physical illness.

It has been repeatedly demonstrated that the somatic symptoms that are used to diagnose depression are reported frequently by patients in general medical settings (Moffic & Paykel, 1975; Clark, Cavanaugh, & Gibbons, 1983) and with specific medical conditions including cancer (Bukberg, Penman, & Holland, 1984), endstage renal disease (Smith, Hong, & Robson, 1985; Craven et al., 1987), diabetes mellitus with metabolic dyscontrol (Lustman et al., 1986a), rheumatoid arthritis (Frank et al., 1988), Parkinson's disease (Starkstein & Robinson, 1989) and multiple sclerosis (Krupp et al., 1988). Each of these illnesses is associated with a different constellation of symptoms that may confound the diagnosis of depression. For this reason, a substantial body of recent research has been directed toward identifying features that discriminate major depression from somatic symptoms that are produced directly

by different physical illnesses. Some of this research is reviewed in this chapter and in the two which follow. The latter are devoted to the assessment and diagnosis of depression in the physically ill. This topic has been given extensive attention, not only because it is multifaceted, but also because diagnosing depression in this population remains a difficult task, even for experienced clinicians and researchers in the field.

DEPRESSIVE SYMPTOMS IN THE MEDICALLY ILL

Description of Measures

Due to their ease of administration and scoring, self-report measures of depressive symptoms are commonly used to study depression in the medically ill. In general, these instruments are composed of a standardized series of statements or questions based upon characteristic or typical symptoms of depression. The responses are scored either by the patient (self-report) or, less commonly, by the interviewer (observer-rated). These instruments have been termed "dimensional" measures because their scoring system usually allows a simple addition of items and the score reflects the overall severity of depressive symptoms on a continuous scale ranging from absent to severe. An assumption upon which these scales are founded is that depression is a continuous variable extending through their range (House, 1988). However, for many of the instruments, one or more cutoffs or threshold scores have also been defined to identify subgroups of patients (e.g., not depressed, mildly depressed).

Compared with unstructured clinical interviews, self-report inventories may be more reliable indicators of the presence and severity of depressive symptoms. The reliability of these instruments derives from the standardization of the questions or statements, their order of presentation, the wording and choices of answers, and the method of scoring. Unfortunately, these measures are of limited usefulness in the diagnosis of clinical depression (Boyle, 1985). Before discussing in more detail the general shortcomings and limitations of self-report instruments, we will describe the three instruments most frequently used to study depression in the medically ill—the Beck Depression Inventory (BDI), the Zung Self-Rating Depression Scale (SDS) and the Center for Epidemiologic Studies Depression Scale (CES-D).

Beck Depression Inventory (BDI)

The Beck Depression Inventory (Beck et al., 1961; Beck, Steer, & Garbin, 1988) is one of the most commonly used measures of depressive symptoms in medically ill samples. It is a 21-item, self-report questionnaire that includes 14 cognitive-affective symptoms and seven somatic ones. Each item (e.g., I feel like I am being punished) describes a symptom of depression with four accompanying descriptive statements ranging in intensity from absent, mild, moderate to severe. The respondent indicates which statement for each item best applies to him or her over the past seven days. Scoring the instrument involves the simple addition of the answers for the 21 items to give a total score ranging between 0 and 63. In addition to this summation score reflecting overall severity, Beck, Steer, and Garbin (1988) have provided cutoff scores for use in medically well samples. These cutoffs have been validated to define the following four groups: no depression (0-9); mild-moderate (10-18); moderate-severe (19-29); and severe (30-63) depressive symptoms.

The BDI has adequate reliability and validity (Beck, Steer, & Garbin, 1988) in medically well samples and has been used in several hundred studies since its inception (Steer, Beck, & Garrison, 1986). However, the evidence that the BDI can be used to quantify the construct of depressed mood with reasonable consistency should not be considered equivalent to its utility in identifying major depression. From an examination of the factor structure of the BDI, Louks, Hayne, and Smith (1989) found that whereas the instrument appears to measure the cognitive aspects of depression, its total score was not strongly related to the vegetative symptoms of depression that are an important clinical aspect of a major depressive episode.

The BDI has been widely used in medical settings, but only a small number of studies have examined the validity of this measure in these patients. One study by Clark, Cavanaugh, and Gibbons (1983) demonstrated adequate internal consistency for the BDI in a sample of general medical inpatients. In order to determine its diagnostic validity in 153 general medical inpatients, Schwab et al. (1967a) compared the BDI scores with results from clinical interviews and from an observer-rated measure of depressive symptoms, the Hamilton Rating Scale for Depression (HAM-D). They concluded that the BDI cutoff (i.e., >9) used in the general population to indicate at least mild depressive symptoms was also useful in their sample. Subsequent investigators have most commonly suggested that the threshold for case definition

of depression should be increased in the physically ill. The need for a higher threshold is suggested by the increased frequency of both somatic symptoms (e.g., loss of energy), and of nonpathological depressive symptoms associated with adjustment to illness in physically ill patients. Unfortunately, there has been little agreement about what is the most appropriate cutoff score to screen for severe or clinical depression. Thresholds of >9 (e.g., Smith, Hong, & Robson, 1985), >13 (e.g., Moffic & Paykel, 1975), and >17 (e.g., Rodin & Voshart, 1987) have been used to identify significant depression. The use of a similar cutoff by different investigators would certainly improve the comparability of studies, but little evidence exists to support strongly the use of any particular cutoff. Some investigators have wisely reported the case rates found using several different BDI cutoffs (e.g., Nielsen & Williams, 1980).

Zung Self-Rating Depression Scale (SDS)

The Zung Self-Rating Depression Scale (Zung, 1965, 1986) was constructed from verbatim reports of depressed patients. Statements most representative of the depressive symptoms were included in the 20-item scale (e.g., I feel downhearted, blue, and sad). When administered, the patient is asked to rate each item according to how often this symptom was experienced during the week prior to completing the questionnaire. The possible answers include: none or little of the time; some of the time; a good part of the time; and most of the time. The maximum possible raw score is 80.

The SDS has been found to have adequate concurrent validity compared with several other dimensional scales of depression. Construct validity has been demonstrated in studies that have shown a reduction in scores as patients recover from major depression (Zung, 1986). The average score on the scale in nondepressed samples drawn from the general population is 39 (Zung, 1986). A series of studies, which together include more than 1500 patients with depressive disorders, showed that the mean score of these patients is most commonly between 55 and 70 (Zung, 1986). These and other data led to the establishment of a cutoff score of either >50 or >55 to indicate significant depression, although Okimoto et al. (1982) provided evidence to support a cutoff of >60 to detect depression in elderly medical patients. The psychometric properties of the SDS have not been clearly established in patients with physical illness.

Center for Epidemiologic Studies Depression Scale (CES-D)

The Center for Epidemiologic Studies Depression Scale (Comstock & Helsing, 1976; Craig & Van Natta, 1976) is a self-administered 20-item questionnaire that contains statements, as do the BDI and SDS, corresponding to characteristic symptoms of depression experienced over the week prior to completing the scale. Each item in the questionnaire has a range of four response options based on how often during the past week the respondent experienced a symptom (e.g., rarely or none of the time, some or little of the time, occasionally or a moderate amount of the time, and most or all of the time). The score, which may range from 0 to 60, indicates the severity of depressive symptoms.

The CES-D has been most commonly used to screen for depressive symptoms in the general population. From these studies, it has been determined that a cutoff of >15 is suggestive of at least mild depression. For example, Radloff (1977) has shown that the mean score in a normal population is approximately 8, and that about 20 percent of a normal population and 70 percent of a psychiatric population score above 15. In both normal and psychiatric samples, the instrument has been demonstrated to have very high internal consistency and adequate test-retest reliability. The diagnostic validity of this scale has not been stringently tested in medical samples.

Nonspecific Measures of Psychologic Morbidity

Several other measures have also been used to measure emotional distress in medical patients. The General Health Questionnaire (GHQ) (Goldberg, 1972) has been widely applied in medical settings. However, the GHQ is a measure of overall emotional distress and does not selectively focus on depressive symptoms. Similarly, the Symptom Distress Checklist (SCL-90-R) (Derogatis, 1983) has been used in medical inpatients. Although this inventory includes a depression subscale, the total score is most frequently reported, and the findings of the depression subscale are seldom described in full. Some have argued that measures of generalized distress are the most appropriate for use in the medical setting (Mayou & Hawton, 1986). This may be true, depending upon the purpose for which they are used. Studies using these less specific measures of psychologic morbidity are occasionally referred to in this text, but for the most part, we discuss in detail only those studies and measures that selectively focus on depression and depressive symptoms in the physically ill.

Limitations of Self-Report Measures

The absence of adequate validation of self-report measures in medically ill patients is a major limitation to their use in medical settings. Most problematic, when these measures are used with physically ill patients, is that they include somatic symptoms of depression that are confounded by the physical illness. For example, the Minnesota Multiphasic Personality Inventory (MMPI), which includes a depression subscale, has been used frequently in studies of patients with rheumatoid arthritis. Pincus et al. (1986) found that 70 randomly selected rheumatoid arthritis patients attending an arthritis treatment center had elevated scores on depression, hypochondriasis, and hysteria, three subscales of the MMPI. However, these authors also reported that the elevations on these subscales were almost entirely accounted for by a small number of items (e.g., loss of energy) which two-thirds of 117 rheumatologists rated as highly consistent with active rheumatoid arthritis itself. The investigators concluded that depressive and other symptoms measured by the MMPI were likely to be falsely elevated in patients with rheumatoid arthritis and suggested that similar false positives might be found with other chronic diseases.

Several studies have shown that somatic symptoms that represent specific diagnostic criteria for major depression (e.g., fatigue, anorexia, weight loss, insomnia, sleep disturbance, and loss of sexual interest) are common in both depressed and nondepressed medical patients (Clark, Cavanaugh, & Gibbons, 1983; Plumb & Holland, 1977). Schwab et al. (1967b) found that loss of sexual interest, sleep disturbance, and fatigue were present in from 34 percent to 66 percent of nondepressed mixed medical inpatients with BDI scores of less than 10. Thus, somatic symptoms such as these may be less useful in distinguishing depressed from euthymic medical patients (Schwab et al., 1967a; Moffic & Paykel, 1975; Plumb & Holland, 1977; Gibbons et al., 1985; Emmons, Fetting, & Zonderman, 1987). However, the above studies of mixed medical samples do not identify which somatic symptoms, in which specific medical illnesses are useful in discriminating major depression. Symptoms such as weight loss may have little diagnostic value in conditions such as cancer, but may be more specific for depression in other medical diseases such as rheumatoid arthritis and endstage renal disease.

In their review of depression and physical illness, Mayou and Hawton (1986) concluded that most rating scales lead to the overdiagnosis of depression in medical patients. These and other authors have expressed concern that the somatic items (e.g., anorexia) included on measures of depressive symptoms likely contribute directly to this overdiagnosis

because they also directly measure symptoms of physical illness. This concern led to the suggestion that depression inventories contain fewer somatic items (Mayou & Hawton, 1986) or, alternatively, that scales be developed that eliminate somatic items altogether (Aylard et al., 1987).

Mayou and Hawton (1986) suggested that some available measures such as the Beck Depression Inventory and the General Health Questionnaire-30 are well suited to assess depression in the medically ill, as they are already heavily weighted for cognitive-affective disturbances. Zigmond and Snaith (1983) designed the Hospital Anxiety and Depression Scale (HAD) specifically for medically ill patients, and they included in this measure a high proportion of psychological rather than somatic items. Others have suggested that "inappropriate" somatic items should be deleted from existing scales (Aylard et al., 1987). However, this latter approach would require extensive investigation prior to its adoption because the psychometric properties of the scales would be altered. Modification of a scale requires revalidation and preferably renaming, as House (1988) suggested. Furthermore, though the deletion of somatic items from questionnaires may avoid overdiagnosing depression in the medical setting, this practice risks underdiagnosing medical depressives who present largely with somatic symptoms. Studies that contribute further to the refinement of diagnostic methodology in the medical setting are discussed in the last section of this chapter.

To avoid overdiagnosing major depression in the physically ill, others have recommended raising the cutoff scores for case identification (Moffic & Paykel, 1975; Cavanaugh, 1983; Bridges & Goldberg, 1984). This approach has merit in that it minimizes the number of false positive cases due to the confounding of illness-related and depressive symptoms without eliminating somatic symptoms from consideration. The latter, we would argue, are common manifestations of depression in the physically ill. However, there is little agreement at present regarding what is an appropriate increase in the threshold for case identification. Only a limited number of studies of depression in the physically ill have used standardized diagnoses of mood disorders to help define appropriate cutoff scores (e.g., Nielson & Williams, 1980; Craven, Rodin, & Littlefield, 1988; Parikh et al., 1988). In addition, most of the studies that have examined the validity of various cutoff scores have self-report measures as screening, rather than diagnostic devices. The utility of self-report measures as screening instruments for depression in the physically ill is discussed in Chapter 2.

Several other factors may also contribute to a high rate of false positive and false negative findings when self-report measures are used

to identify clinical depression in the medically ill (Myers & Weissman, 1980; Boyle, 1985). First, psychological symptoms are not specific for depression and may occur both in normal states and in other psychological conditions (Gotlib, 1984). Thus, elevated scores on depression measures can occur with normal adjustment processes or with other psychiatric conditions (e.g., anxiety disorders) whose symptoms overlap with depressive disorders. Second, elevated depression scores may occur due to normal fluctuations in mood state and/or to relatively transient psychological reactions to physical symptoms such as pain or nausea. Third, the diagnostic specificity of most self-report measures is diminished by the lack of weighting of particular items. In most cases, each item is weighted equally, with the total score being a simple addition of all recorded symptoms. However, it is not necessarily accurate to assume that all items should be granted equal status in the diagnosis of depression. For example, anhedonia is considered by some to be pathognomic of depression (Snaith, 1987) and might warrant greater weighting than a less specific symptom such as insomnia. In fact, a high score on a self-report measure can be obtained even if the specific complaints of depressed mood or loss of interest are absent.

These and other limitations raise serious concern about the utility of self-report measures to define cases of depression in the medically ill (Blumenthal, 1975; Plumb & Holland, 1977; Glass et al., 1978; Boyd et al., 1982; Bukberg, Penman, & Holland, 1984; Craven, Rodin, & Littlefield, 1988). Overall, studies that have examined the validity of self-report measures of depressive symptoms have found that, when used alone, they are not adequate to diagnose depressive disorders. In fact, these measures were not originally designed for this purpose, although some investigators have used them in this way. In this text we distinguish studies of depressive symptoms (e.g., based on self-report symptom inventories) from studies of depressive disorders. With these limitations in mind, studies based upon self-report measures may still add to our understanding of depression in the physically ill.

Prevalence of Depressive Symptoms

Tables 1.1, 1.2, and 1.3 represent a comprehensive selection of English language reports of studies whose primary purpose was to estimate the prevalence of depressive symptoms in medically ill patients. Table 1.1 lists those studies that report the prevalence of depressive symptoms in outpatients in either primary care or general medical settings. Table 1.2 lists studies of depressive symptoms in general medical inpatients. Table 1.3 summarizes those studies in which there is a specific medical

disorder common to the sample, although the sample may include either inpatients or outpatients. For the most part, studies were included only if the samples consisted of subjects with medical disorders with a clearly defined organic basis. Not included were studies undertaken in patients with conditions in which the pathophysiology was ill-defined (e.g., tinnitus or chronic fatigue syndrome), and studies designed primarily to assess the prevalence of depressive symptoms following a medical or surgical intervention (e.g., depression following hysterectomy). Conditions in which there is unresolved ambiguity regarding both medical diagnosis and mood symptoms are described in Chapter 3.

Certain minimal methodological criteria were used in selecting the studies included here. Only those studies in which the depression measure was administered to the entire sample, and in which the sample size was large enough to allow reasonable confidence in interpreting the results were included. Studies had to specify either the cutoff or threshold used to define cases of depression, or provide the raw data from which a prevalence estimate could be derived. Preference was given to studies that used a measure specifically designed to assess depressive symptoms. However, this rule was relaxed when the majority of studies in an area of interest used less specific measures of emotional distress (e.g., the General Health Questionnaire has been commonly administered in studies in primary care settings).

Our decision to exclude most surveys of general psychological distress may have led to an underestimation of the prevalence of emotional distress in medical samples. Indeed, Mayou and Hawton (1986) have argued that the most common emotional disorder in the medically ill is an "undifferentiated neurotic pattern" consisting of symptoms of both depression and anxiety, and corresponding most closely to the DSM-III diagnosis of adjustment disorder with mixed emotional features. For this reason, they have argued that a general symptom questionnaire such as the General Health Questionnaire is most appropriate for use in the medical setting. This is a valid argument, particularly in the primary care setting where physicians should be aware of nonspecific emotional distress and are in an ideal position to investigate further and to implement some form of intervention. Our focus in this text is on the more specific construct of depression, although we hope that such an approach will contribute to an improved understanding of the broader range of emotional problems that occur in medical patients.

It should be noted that many of the studies listed in Table 1.1 are based on primary care patients in which the presence of physical illness

TABLE 1.1. *Prevalence of Depressive Symptoms in Primary Care or General Medical Outpatient Settings*

Author(s) and Year	*n*	*Subject Characteristics*	*Instrument*	*Cut-off Point*	*Prevalence*
Salkind (1969)	80	general practice	Beck Depression Inventory	≥11 ≥23	48.0% 8.0%
Moore, Silimperi, & Bobula (1978)	212	general practice	Zung Self-Rating Depression Scale	≥50 ≥60	45.3% 19.3%
Linn & Yager (1980)	100	internal medicine	Zung Self-Rating Depression Scale	≥50 ≥60 ≥70	42.0% 21.0% 7.0%
MacDonald & Bouchier (1980)	100	gastroenterology and general medicine	General Health Questionnaire–60, & Standard Psychiatric Interview	≥10 and depression	26.0%
Nielsen & Williams (1980)	526	general practice	Beck Depression Inventory	≥10 ≥13 ≥15 ≥17 ≥20 ≥30	19.8% 12.2% 8.4% 5.5% 3.0% 0.4%
Wright et al. (1980)	199	general practice	Zung Self-Rating Depression Scale	≥50 ≥60	41.0% 17.0%
Seller, Blascovich, & Lenkei (1981)	222	general practice	Beck Depression Inventory	≥11 ≥21	34.7% 14.4%
Okimoto et al. (1982)	55	elderly general medical patients	Zung Self-Rating Depression Scale	≥60	23.6%

Dhadphale, Ellison, & Griffin (1983)	388	general practice	Self Reporting Questionnaire, & Standard Psychiatric Interview	ICD-8 depression	9.3%
Hankin & Locke (1983)	1,921	internal medicine & obstetrics-gynecology	Center for Epidemiologic Studies Depression Scale	≥16	21.6%
Zung et al. (1983)	1,086	general practice	Zung Self-Rating Depression Scale	≥55	13.2%
Barnes & Prosen (1984)	1,250	general practice	Center for Epidemiologic Studies Depression Scale	≥16 ≥21 ≥31	33.2% 21.4% 8.1%
Borson et al. (1986)	406	elderly medical	Zung Self-Rating Depression Scale	>60	24.4%
Katon et al. (1986)	147	general practice	Beck Depression Inventory - Short Form, & Zung Self-Rating Depression Scale	≥8 ≥60	17.0% 11.6%
Rose et al. (1986)	100	gastroenterology outpatients	Beck Depression Inventory - Short Form	≥8 >15	29.0% 9.0%
Rucker, Frye, & Cygan (1986)	375	general practice	Beck Depression Inventory - Short Form	at least moderate symptoms	32.5%
Williamson (1987)	354	general practice	Beck Depression Inventory	≥13	15.5%

TABLE 1.2. ***Prevalence of Depressive Symptoms in General Medical Inpatients***

Author(s) and Year	*n*	*Subject Characteristics*	*Instrument*	*Cut-off Point*	*Prevalence*
Schwab et al. (1967a)	153	general medical	Beck Depression Inventory, & Hamilton Rating Scale for Depression	≥14	21.6%
				>42	22.9%
Maguire et al. (1974)	230	general medical	General Health Questionnaire-60, & Standardized Psychiatric Interview	>11 and depression	10.8%
Moffic & Paykel (1975)	150	general medical	Beck Depression Inventory	≥14	24.0%
				≥26	2.0%
Knights & Folstein (1977)	57	general medical	General Health Questionnaire-30	>4	46.0%
Fava et al. (1982a)	325	general medical	Center for Epidemiologic Studies Depression Scale	≥16	58.0%
				≥23	35.5%
				≥28	25.2%
Fava et al. (1982b)	325	oncology	Center for Epidemiologic Studies Depression Scale	≥16	57.8%
				≥23	33.5%
Cavanaugh (1983)	335	general medical	Beck Depression Inventory	≥10	51.0%
				≥14	32.0%
				≥18	18.0%
				≥21	14.0%

Magni, De Leo, & Schifano (1985)	379	general medical geriatric (n=178) adult (n=201)	Zung Self-Rating Depression Scale	≥50 (geriatric) (adult)	 42.1% 20.4%
Levenson et al. (1986)	80	general medical	Hopkins Symptom Checklist (SCL-90-R)	>28	21.3%
Feldman et al. (1987)	382	general medical	General Health Questionnaire-30, & Present State Examination	CATEGO depression >4	6.8%
Hengeveld, Ancion, & Rooijmans (1987)	220	general medical	Beck Depression Inventory	≥13	32.0%
Johnston et al. (1987)	113	general medical (geriatric)	General Health Questionnaire-28, & Clinical Interview	>4 and depression ?	43.0% 17.0%
Yang et al. (1987)	251	general medical	Beck Depression Inventory	≥13 ≥25	47.8% 13.5%
Koenig et al. (1988)	128	neurology & medicine (geriatric)	Geriatric Depression Scale, & Brief Carroll Depression Rating Scale (n=64)	≥11 ≥14 ≥6	19.5% 15.6% 17.2%
Rosenberg et al. (1988)	71	general medical	Beck Depression Inventory	≥14	38.0%

TABLE 1.3. *Prevalence of Depressive Symptoms in Patients with Specific Medical Illness*

Author(s) and Year	*n*	*Subject Characteristics*	*Instrument*	*Cut-off Point*	*Prevalence*
Endstage Renal Disease					
Rodin et al. (1984)	85	ESRD	Beck Depression Inventory	≥18	26.0%
Kutner, Fair, & Kutner (1985)	128	ESRD	Zung Self-Rating Depression Scale	≥56	26.6%
Rodin & Voshart (1987)	115	ESRD	Beck Depression Inventory	≥17 >30	25.7% 6.2%
Neurological Diseases					
Kirk & Saunders (1979)	342	neurology outpatients	General Health Questionnaire-60	>11 >26	48.0% 21.0%
Bridges & Goldberg (1984)	100	neurology inpatients	General Health Questionnaire-28, & Clinical Interview Schedule	≥12 and "minor depression"	24.0%
Robinson & Price (1982)	103	poststroke	General Health Questionnaire-28	≥5	29.1%
Sinyor et al. (1986)	64	poststroke	Zung Self-Rating Depression Scale	≥50 ≥60	47.0% 22.0%
Wade, Legh-Smith, & Hewer (1987)	976	poststroke (six months)	Wakefield Self-Assessment Depression Inventory	≥15 ≥19	32.0% 20.0%

Ebrahim, Barer, & Nouri (1987)	149	poststroke	General Health Questionnaire–28	≥12	22.8%
Warburton (1967)	140	Parkinson's disease	Warburton Criteria	Grades I, II, III	63.0%
Celesia & Wanamaker (1972)	153	Parkinson's disease	Warburton Criteria	Grade I Grade II Grade III	12.4% 15.0% 9.8%
Mayeux et al. (1981)	55	Parkinson's disease	Beck Depression Inventory	≥10 ≥18 ≥25	47.2% 16.3% 3.6%
Gotham, Brown, & Marsden (1986)	189	Parkinson's disease	Beck Depression Inventory	≥10 ≥18 ≥25	69.0% 29.0% 12.0%
Frochtengarten et al. (1987)	56	Parkinson's disease	Hamilton Rating Scale for Depression (modified-max.40)	≥9 ≥13	62.5% 27.0%
Folstein, Folstein, & McHugh (1979)	11	Huntington's Chorea	General Health Questionnaire–30	>4	72.7%
Whitlock & Siskind (1980)	30	multiple sclerosis	Beck Depression Inventory	≥15 ≥25	26.7% 10.0%
Comings & Comings (1987)	246	Tourette syndrome	Beck Depression Inventory	≥9	20.7%
Jahanshahi & Marsden (1988)	85	torticollis	Beck Depression Inventory	≥10 ≥18 >24	53.6% 28.6% 11.9%
"	49	cervical spondylosis	Beck Depression Inventory	≥10 ≥18 >24	38.5% 15.4% 2.6%

TABLE 1.3. *(continued)*

Author(s) and Year	*n*	*Subject Characteristics*	*Instrument*	*Cut-off Point*	*Prevalence*
Oncology					
Koenig, Levin, & Brennan (1967)	36	oncology	Minnesota Multiphasic Personality Inventory-Depression Subscale	≥70 (D30 raw score of ≥14)	25.0%
Craig & Abeloff (1974)	30	oncology inpatients	Hopkins Symptom Checklist (SCL-90)	Depression Dimension >2.0	13.3%
Plumb & Holland (1977)	97	oncology	Beck Depression Inventory	≥14 ≥25	23.0% 4.0%
Silberfarb, Maurer, & Crouthamel (1980)	146	oncology: breast cancer	Psychiatric Status Schedule	depressed affect	15.0%
Cain et al. (1983)	60	gynecological oncology	Hamilton Rating Scale for Depression	≥18 ≥25	36.7% 3.3%
Bukberg, Penman, & Holland (1984)	62	oncology inpatients	Hamilton Rating Scale for Depression, & Beck Depression Inventory	>21 ≥14	15.0% 33.0%

Lansky et al. (1985)	505	oncology	Zung Self-Rating Depression Scale, & Hamilton Rating Scale for Depression	≥50 ≥20	5.3%
Davies, Davies, & Delpo (1986)	38	head & neck oncology	Leeds Scale for Assessment of Depression	>6	28.9%
Bisno & Richardson (1987)	53	oncology receiving radiotherapy	Beck Depression Inventory	≥14 ≥25	22.6% 1.9%
Lasry et al. (1987)	123	breast cancer i) lumpectomy (n=44) ii) mastectomy (n=43) iii) lumpectomy & radiotherapy (n=36)	Center for Epidemiologic Studies Depression Scale	>15	i) 41.0% ii) 50.0% iii) 50.0%
Other					
Zaphiropoulos & Burry (1974)	50	rheumatoid arthritis	Beck Depression Inventory	≥15 ≥25	46.0% 16.0%
Bishop et al. (1987)	39	rheumatoid arthritis	Beck Depression Inventory	≥17	11.0%
Mayou (1975)	94	venereal disease	Clinical Interview Schedule	>20 (depression) (depression & anxiety)	5.3% 16.0%
Stern, Pascale, & Ackerman (1977)	68	myocardial infarction	Zung Self-Rating Depression Scale	≥40	22.0%

TABLE 1.3. *(continued)*

Author(s) and Year	*n*	*Subject Characteristics*	*Instrument*	*Cut-off Point*	*Prevalence*
Teiramaa (1979)	100	asthma	Beck Depression Inventory	≥15	21.0%
McSweeney et al. (1982)	203	COPD outpatients	Minnesota Multiphasic Personality Inventory—Depression Subscale	T score >60	42.0%
Light et al. (1985)	45	COPD outpatients	Beck Depression Inventory	≥15	42.0%
Hughes et al. (1983)	196	dermatology outpatients	General Health Questionnaire-30, & Wakefield Self-Assessment Depression Scale	≥5	30.1%
				≥14	15.0%
Byrne (1984)	211	gynecology outpatients	General Health Questionnaire-60	≥12	45.5%
Lalinec-Michaud, Engelsmann, & Marino (1988)	152	gynecology	Zung Self-Rating Depression Scale, & Hamilton Rating Scale for Depression	≥64	7.2%
				≥13	13.2%

Chamberlain & Chamberlain (1985)	120	denture prosthodontics	Beck Depression Inventory	≥10 ≥13	10.7% 6.6%
Ward et al. (1987)	139	post-burn patients	Beck Depression Inventory	≥10 ≥15	22.3% 12.9%
Wulsin et al. (1988)	49	ER patients with atypical chest pain	Center for Epidemiologic Studies Depression Scale	≥16	38.8%
Lyons et al. (1989)	69	elderly patients with Hip fracture	Hamilton Rating Scale for Depression, &	≥17 ≥25	34.7% 6.1%
			Geriatric Depression Scale	≥15	47.4%
Millman et al. (1989)	55	obstructive sleep apnea	Zung Self-Rating Depression Scale	≥50	45.0%
Mossey et al. (1989)	219	post-hip fracture	Center for Epidemiologic Studies	≥16 (post surgery)	51.2%
			Depression Scale	≥8 (12 month follow-up)	20.0%

is sometimes not clearly documented. In addition, the relationship between depression and physical illness is least clear in this setting because the primary care patients with more depressive symptoms tend to be those who do not have a medical diagnosis (Kirk & Saunders, 1979; MacDonald & Bouchier, 1980; Vazquez-Barquero et al., 1985). It may be that such patients present to their general practitioners primarily for psychological rather than physical assistance. On the other hand, Henley and Coussens (1988) found that depressive symptoms were more frequent in 297 general practice patients with a medical diagnosis than in the remainder of the sample without a defined illness. Further work is required, in a wider range of samples, to clarify the relationship between depression and physical illness in the primary care setting.

Depressive symptoms based on self-report measures occur in from less than 10 percent of some samples (Lansky et al., 1985; Rose et al., 1986; Johnston et al., 1987; Feldman et al., 1987) to over 50 percent of other samples (Fava et al., 1982a, 1982b; Lasry et al., 1987). The majority of studies have found at least mild symptoms of depression in one-fifth to one-third of medical patients studied. These figures support the contention that depressive symptoms are common in the physically ill. However, a striking feature of the findings summarized in these tables is the wide variation in the prevalence rates reported. The confounding of depressive and illness-related symptoms may contribute to this variability, as may variations in the cutoff scores used for case definition. Other factors that influence the results include demographic or clinical differences among the samples, and the time of measurement in relation to the longitudinal course of the medical illness. For example, in patients with endstage renal disease, more severe depressive symptoms may be expected during the first one to two years following the initiation of dialysis than at other times during the course of this condition (Kutner, Fair, & Kutner, 1985).

Other trends are evident from the summary tables of these studies. Most cases defined as depressed using symptom thresholds show mild to moderate, rather than severe depression. This is most obvious in studies reporting prevalence rates based on multiple cutoff scores (Zaphiropoulos & Burry, 1974; Moffic & Paykel, 1975; Nielsen & Williams, 1980; Cavanaugh, 1983; Barnes & Prosen, 1984). As higher cutoffs are used for case definition, the prevalence of "depression" drops dramatically. Moffic and Paykel (1975) found that 24 percent of their medical inpatients demonstrated at least mild symptoms of depression (BDI $\geq$14) whereas only 2 percent were found to be severely depressed (BDI $\geq$26). An additional trend is that although depressive symptoms