The Burden of Depression and Anxiety in General Medicine

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Psychological illness is responsible for considerable disability worldwide. The World Health Organization Global Burden of Disease Survey estimates that by the year 2020, major depression will be second only to ischemic heart disease in the amount of disability experienced by sufferers. Although different measures of disability have been used in different studies, they have consistently demonstrated that individuals with depression and anxiety disorders experience impaired physical and role functioning, more days in bed due to illness, more work days lost, increased impairment at work, and high use of health services. The disability caused by depression and anxiety is just as great as that caused by other common medical conditions, such as hypertension, diabetes, and arthritis. Comorbidity of depression with anxiety or medical illness further increases the disability experienced by sufferers. Recognition and treatment, however, relieve the burden imposed by untreated depression on the individual, society, and health services. *(J Clin Psychiatry 2001;62[suppl 8]:4–9)*

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The global burden of mental illness is expected to increase in importance over the coming decades. The World Health Organization (WHO) Global Burden of Disease Survey[1] estimates that by the year 2020, major depression will be second only to ischemic heart disease in the amount of disability experienced by sufferers. Depression and anxiety disorders are highly prevalent conditions, as demonstrated by community and primary care studies. The WHO Collaborative Study of Psychological Problems in General Health Care screened nearly 26,000 individuals attending primary care facilities in 14 countries and found that 10.4% of patients had current depression.[2] The Depression Research in European Society (DEPRES) survey,[3] involving 78,463 adults, found a 6-month prevalence rate of 17.0% for depressive disorders. Similarly, the U.S. National Comorbidity Survey (NCS)[4] found that 17.3% of the general population had experienced an episode of major depression and 24.5% had suffered from an anxiety disorder at some time during their lives. It appears to be a consistent finding in different communities that a substantial proportion of the population will be affected by depression or anxiety. This article will discuss the burden caused by depression and anxiety disorders on the individual and on society, and the added burden of comorbid illness.

COMORBIDITY OF DEPRESSION WITH ANXIETY OR MEDICAL ILLNESS

Depression is often comorbid with anxiety and medical illnesses. Sartorius et al.[5] reported the risks of developing depression in patients with other psychological conditions or medical illness in the WHO Collaborative Study. Depression was 9 times more likely to develop in patients with anxiety disorders compared with those with no other illness and 6 times more likely in patients with 2 or more chronic medical conditions (Figure 1). There was substantial overlap between depressive and anxiety symptoms in this study; 39% of patients with current depression also had an anxiety disorder, and 44% with a current anxiety disorder had comorbid depression.

Up to 40% of patients with cancer suffer from depression or anxiety, with patients experiencing chronic pain or side effects from chemotherapy particularly at risk.[6,7] Studies[8,9] suggest that the presence of depression or anxiety has a detrimental effect on prognosis and mortality in cancer patients. Depression is also frequently found in patients with cardiac disease, with up to 33% of patients developing depression after suffering a myocardial infarction.[10] The relationship between cardiac disease and depression is complex, with evidence that depression may actually predispose an individual toward cardiovascular disease.[11,12] Furthermore, depression occurs in about half of all patients who experience a cerebrovascular accident and is associated with poor functional recovery.[13,14] A higher mortality rate is observed after myocardial or cerebral infarction in depressed patients than in patients without depression.[15] Stress, social isolation, lower income,

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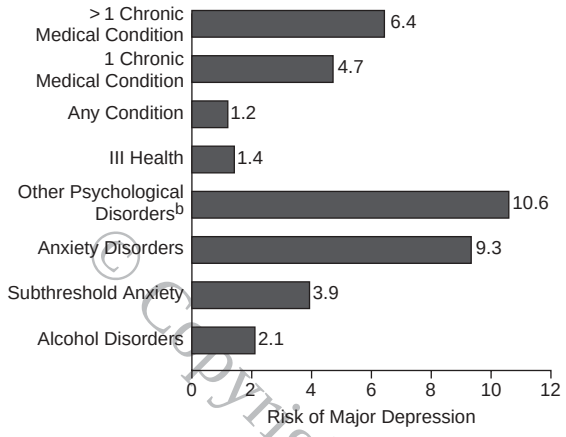
Figure 1. Odds Ratios of Current Depression Occurring With Other Disorders[a]



[a]Data from Sartorius et al.[5]
[b]Other psychological disorders are neurasthenia, somatization disorder, hypochondriasis, and dysthymia.

and lower educational levels are all related to a poor cardiac outcome.[16] The disability induced by depression or anxiety may therefore impact negatively the outcomes of comorbid medical illness.

MEASURES OF DISABILITY

Different studies have used different ways of measuring the disability caused by mental illness and other diseases. The WHO Global Burden of Disease Survey[1] used disability-adjusted life-years (DALYs), which express years of life lost to premature death and years lived with disability. A DALY, therefore, represents 1 lost year of healthy life. By looking separately at the 2 aspects of the DALY, years of life lost and years lived with disability, it is possible to establish the central role that disability plays in the overall health status of a population. For example, in 1990, major depression was responsible for 10.7% of all years lived with disability worldwide. Any global disability measure is complicated, however, by potential variations in assessment of disability across cultures. Üstün and colleagues[17] asked health professionals, patients, and caregivers in 14 countries to rank 17 health conditions in order of disability. Although the rank order of diseases was fairly consistent across countries, the differences in the ranking of some conditions were large enough to cast doubt on the universal nature of disability measures. For example, major depression was ranked as the third most disabling condition in Spain, but only the eleventh most disabling in Turkey. Such differences are likely to reflect variations in the recognition of diseases and the availability of treatment and social support in different countries. Assessment of disability should, therefore, be interpreted in the context of cultural expectations of health and health care.

The Medical Outcomes Study,[18] an observational study of more than 11,000 outpatients receiving care at U.S. health centers, used a self-administered questionnaire, the Patient Screener, to assess disability in 6 domains: physical, role, and social function; number of days in bed due to illness; current health status; and freedom from pain. With the exception of bed days, all measures were scored from 0 to 100, with 100 representing the patient's ideal of perfect health. The usefulness of self-reports in comparing disability caused by depression and other illnesses has been called into question, however, since depressed patients may be more pessimistic about their disabilities compared with nondepressed patients. Nevertheless, Wells et al.[18] found that there were significant correlations between measures on the 6 domains and intensity of health service use by patients with depression, indicating that even if the patients' perceptions are pessimistic, they have considerable importance to health service providers. Furthermore, there were strong associations between depressive symptoms and bed days, a measure that is considered a more objective indicator of disability than rating scales, which give a subjective measure of how the patient feels.

Similarly, the NCS used work loss days, work cutback days, and interference with daily activities as measures of disability caused by depression.[19,20] Work loss days (patient was unable to go to work) may be considered a relatively objective measure, since patients' self-reports of days off work show good agreement with employers' absence records.[21] Work cutback days, in which patients feel their productivity at work is less than usual, and interference with daily activities may be more subjective in that patients' perception may be influenced by the presence of depression itself.

The WHO Collaborative Study on Psychological Problems in General Health Care aimed to assess the relationship between mental illness, disability, and negative health perceptions by the combined use of self-report and interview-based measures of functioning.[22] Patients assessed their physical functioning, motivation, and social relationships with the Brief Disability Questionnaire, and interviewers used the Social Disability Schedule to rate patients' functioning in occupational roles in relation to local norms and patients' individual life situations. The results showed that psychiatric illness was as strongly associated with patient-rated as interviewer-rated disability and that increased disability was consistently observed across the 14 countries participating in the study.

Whatever the measures used, studies have been consistent in demonstrating that depression causes substantial disability. Other studies have looked at outcomes such as severity of symptoms and risk of suicide attempts, which, although not directly assessing functional disability, give an indication of the burdens placed on individuals and health care services by untreated depression and anxiety.

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DISABILITY CAUSED BY DEPRESSION IN COMPARISON WITH MEDICAL ILLNESS

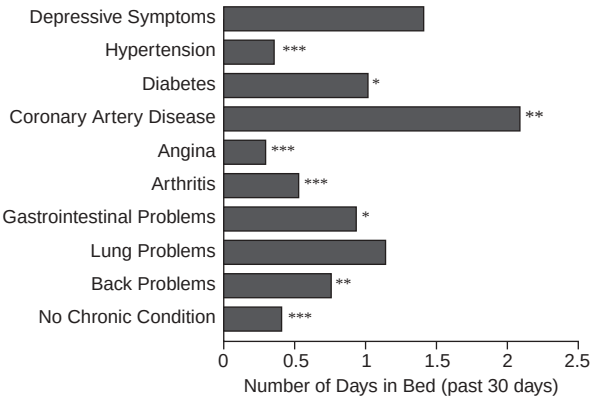
The magnitude of the disability caused by depression is as great as that caused by other common medical conditions. The Medical Outcomes Study[18] found that the physical functioning of patients with depressive symptoms was significantly worse ($p < .05$) than that of patients with hypertension, diabetes, arthritis, and gastrointestinal problems. Similarly, role functioning in depressed patients was significantly worse ($p < .05$) than that of patients with the previously listed conditions as well as those with lung and back problems, a finding consistent with those of the WHO Global Burden of Disease Survey.[1] With regard to days in bed due to illness, only patients with coronary artery disease experienced more disability than those with depressive symptoms (Figure 2). In the WHO study, 26% to 53% of depressed or anxious patients reported an occupational role dysfunction, and almost 50% reported a physical disability, compared with 7% and 12% of nonpsychiatric patients, respectively.[22]

National community studies have demonstrated that the burden imposed by depression increases with the severity of the condition. In the NCS, individuals with 7 to 9 symptoms of major depression experienced an average of 2.75 days of reduced work productivity per month, compared with 0.99 days for individuals with 5 to 6 symptoms of major depression and 0.79 days for those with minor depression.[23] Likewise, a significantly greater proportion of individuals with 7 to 9 symptoms of major depression (52%) experienced interference with their daily activities compared with individuals with minor depression (18%, $p < .05$).

DISABILITY CAUSED BY DEPRESSION COMORBID WITH ANXIETY OR MEDICAL ILLNESS

Depression comorbid with anxiety or medical illness results in greater disability than either of these disorders on their own. The increased burden of depression comorbid with anxiety compared with depression alone was demonstrated in the DEPRES survey.[24,25] A total of 1884 participants who were identified as having depression in the first phase of the survey (DEPRES I) underwent in-depth interviews in the second phase of the survey (DEPRES II), which included questions on depressive symptoms and disruption to normal life and employment.[24,25] A cluster analysis identified 6 different depressed patient types: patients with moderately impairing depression, depression associated with chronic physical problems, severe depression associated with anxiety, depression associated with sleep problems, depression associated with social problems, and depression associated with tiredness or fatigue. Of these patient types, patients suffering from depression associated with anxiety were the most severely affected in terms of number of symptoms of depression and level of disability. Patients in this group experienced an average of 30 working days lost during the previous 6 months and 47 days during which they were unable to carry out any of their normal daily activities, compared with 20 days and 30 days, respectively, for the overall group of depressed patients.

Figure 2. Days in Bed Due to Illness in Past 30 Days for Patients With Depression Compared With Other Medical Illnesses[a]



[a]Data from Wells et al.[18]
*$p < .01$ vs. depressive symptoms.
**$p < .001$ vs. depressive symptoms.
***$p < .0001$ vs. depressive symptoms.

Regarding specific anxiety disorders, the presence of depression has been shown to increase the level of disability caused by social anxiety disorder and panic disorder. At the Paris center of the WHO Collaborative Study, 2096 consecutive primary care patients were screened for DSM-III-R social anxiety disorder.[26] Among patients found to have current social anxiety disorder, 33% also had a current major depressive episode, with the onset of social anxiety disorder preceding that of depression in 76% of cases. Patients with social anxiety disorder comorbid with major depression had significantly greater severity of symptoms (score of 16.3 on the 28-item General Health Questionnaire) compared with patients with social anxiety disorder alone (4.7, $p < .01$) and patients with no social anxiety disorder (2.9, $p < .05$). Furthermore, the presence of depression significantly increased the rate of attempted suicide in patients with social anxiety disorder (41.3%, $p < .01$) compared with patients with depression alone (16%), social anxiety disorder alone (8.5%), and control patients (6.5%). In the NCS, panic disorder comorbid with major depression was responsible for an average of 25.4 work days lost in the past year, compared with 9.0 days for depression alone and 11.2 days for panic disorder alone.[19]

The WHO Collaborative Study[27] also showed the greater level of disability experienced by patients with comorbid depression and anxiety disorders compared with those with depression alone. Primary care patients with no

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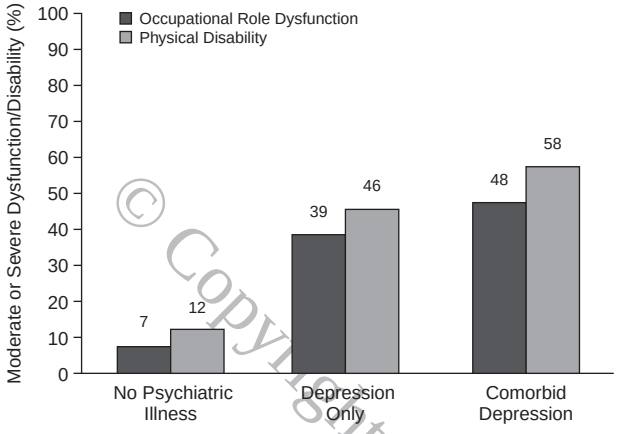
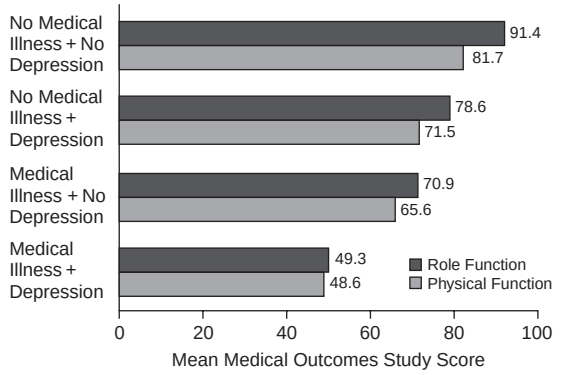
Figure 3. Occupational Role Dysfunction and Physical Disability in Patients With No Psychiatric Illness, Depression Only, or Depression Comorbid With Other Psychiatric Disorders[a]



[a]Data from Ormel et al.[27]

Figure 4. Role and Physical Functioning in Patients With Depression and Medical Illness[a]



[a]Data from Ormel et al.[28]

psychiatric illness experienced an average of 1.7 days in the past month in which they were unable to perform their usual daily activities, compared with 6.1 days for patients with depression alone and 7.7 days for those with depression comorbid with other psychiatric disorders, such as panic disorder or generalized anxiety disorder.[27] Likewise, a greater proportion of patients with comorbid depression experienced physical disability and occupational role dysfunction compared with patients with depression alone or no psychiatric illness (Figure 3).

The Groningen Longitudinal Aging Study[28] compared functioning of individuals aged 57 years and older with depression with that of individuals with chronic medical conditions. Physical and role functioning was significantly worse ($p < .01$) in patients with depression comorbid with medical illness compared with patients with medical illness alone (Figure 4). The presence of comorbid anxiety has a similar effect on disability in patients with medical illness. In the Medical Outcomes Study, patients with hypertension or diabetes comorbid with anxiety had worse physical functioning, role functioning, and emotional well-being compared with patients with no anxiety.[29]

USE OF MEDICAL SERVICES BY PATIENTS WITH PSYCHIATRIC ILLNESS

Patients with depression or anxiety disorders are often high users of medical services. Katon et al.[30] examined a sample of high utilizers of primary health care, who had made an average of 15 visits and telephone calls to the clinic. It was found that 23.5% were suffering from major depression and two thirds had a lifetime history of depression. In addition, lifetime prevalences of generalized anxiety disorder and panic disorder were 40.3% and 21.8%, respectively. In total, 83.3% of these high utilizers of health services had suffered from a psychiatric condition at some time in their lives. The primary care physicians recognized 73% of patients as having moderate to severe emotional distress. More than three quarters of the patients, however, had unmet diagnostic and treatment needs, in that they had either not received a correct diagnosis or were receiving inadequate or inappropriate therapy. Katzelnick et al.[31] found similar results in their study of patients receiving care from the Dean Care Health Maintenance Organization. Of those patients who were deemed high users of medical services, 24.8% had a diagnosis of depression within the past 2 years, compared with 7.5% of low users. Only 30.7% of the patients with current depression were receiving an adequate dose of antidepressant medication. Similarly, in DEPRES II,[24] only 30% of patients had received an antidepressant during their latest episode of depression.

The recognition of depression by primary care physicians is complicated by the fact that depressed patients tend not to present with psychological symptoms; in the WHO Collaborative Study, 69% of patients with depression reported only physical symptoms, and 11% denied psychological symptoms even on direct questioning.[32] Likewise, only 5% of patients found to have social anxiety disorder had visited their primary care physician to report psychological problems.[26]

Comorbidity of psychiatric disorders results in further increased use of medical services. For example, the U.S. Epidemiologic Catchment Area Survey found that while a significantly greater proportion of individuals with uncomplicated social anxiety disorder had sought treatment from medical outpatient clinics compared with individuals with no psychiatric disorder, those with comorbid social anxiety disorder were also more likely to have visited psychiatric outpatient clinics and emergency departments.[33] Similarly, in the NCS,[34] respondents with comorbid major

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depression and panic disorder were more likely to have visited a general physician, mental health provider, or self-help group compared with individuals with either disorder alone.

There may be a concern that recognizing and treating depression may result in an increased cost of health care. The study by Katzelnick et al.,[31] however, demonstrated that this is not the case. A group of 20 high utilizers of medical services who had a confirmed diagnosis of depression completed 6 months of antidepressant therapy. Treatment resulted in reduced depressive symptoms and corresponding improvements in physical, social, and occupational functioning; improvements in general health; and reduced days of work lost to illness. The cost of medical services decreased from a mean of $13.28 per day before treatment to $6.75 per day during antidepressant therapy (excluding the cost of the antidepressant medication itself). Similarly, in a study by Thompson et al.[35] involving 1661 patients receiving treatment for depression, patients who remained on their antidepressant regimens for at least 6 months were more likely to incur significantly reduced medical service costs. Thus, it appears that improving patients' quality of life and functioning could relieve the ongoing burden on health services that is imposed by untreated depression.

CONCLUSIONS

Depression and anxiety disorders impose considerable burdens on the individual and on society in terms of impairment of daily activities and work productivity and cost to health service providers. The disability caused by depression and anxiety is just as significant as that caused by common medical illnesses. Depression and anxiety are often comorbid with each other and with medical conditions, causing patients even greater disability and imposing an even greater burden on their daily lives and on health care services. Furthermore, the presence of comorbid psychiatric conditions appears to have a detrimental effect on the prognosis and outcome of medical illness. There is clearly a need, therefore, for increased recognition and treatment of depression and anxiety in general medicine. Effective antidepressant therapy restores patients' quality of life and can alleviate the burdens on the health services caused by untreated depression.

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