The Economic Burden of Bipolar Disease

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This article reviews the prevalence of bipolar disorder, as well as the studies quantifying the burden of illness and cost of illness of this condition. It also discusses barriers to treatment. Multiple epidemiologic studies suggest a lifetime prevalence of bipolar I disorder of nearly 1%, making it a common illness. Bipolar illness is not only common, but for those affected, it is a significant source of distress, disability, loss of life through suicide, and burden on relatives and other caregivers. In 1990, the World Health Organization identified bipolar disorder as the sixth leading cause of disability-adjusted life years in the world among people aged 15 to 44 years. Costs to society appear to be roughly 70% of those for schizophrenia. Despite the burden imposed by bipolar illness and the availability of several effective treatments for the illness, many bipolar patients in the United States continue to face significant barriers to care. *(J Clin Psychiatry 2000;61[suppl 13]:38–41)*

Bipolar disorder, or manic depressive disease, is a common illness characterized by episodes of mania and depression, as well as by mixed episodes. The hyperactivity and expansive or irritable mood of manic episodes and the lethargy and suicide risk of depressed episodes, along with other complications, can wreak havoc on the affected person's personal life, family, and career. Consequently, bipolar disorder is one of the most burdensome illnesses.

This article reviews the prevalence of bipolar disorder, as well as the studies quantifying the burden of illness and cost of illness of this condition. It also discusses barriers to treatment. The review focuses on the recent English-language literature.

PREVALENCE OF BIPOLAR DISEASE

The major epidemiologic prevalence studies reported in the 1990s[1–3] are shown in Table 1. These studies suggest a lifetime prevalence rate of approximately 1% for bipolar I disorder. Angst[4] reviewed results from 10 additional studies from 1985 to 1994 and reported lifetime prevalence rates for bipolar I disorder of 0.0% to 0.7%. A recent study from Ontario reported 12-month prevalence rates of manic episodes of 0.6% in urban areas and 0.4% in rural areas.[5] Recent studies from Hungary[6] and urban[7] and rural[8] Ethiopia report lifetime prevalence rates for bipolar disorder or bipolar I disorder of 0.0% to 1.5%.

As with many psychiatric illnesses having important genetic elements to their etiology, the bipolar phenotype is not known precisely. Definitions of the bipolar phenotype that are less narrow than strict bipolar I criteria produce higher prevalence rates. Angst[4] reviewed 9 reports of prevalence of bipolar II disorder over various time frames from 1978 to 1998 whose results ranged from 0.2% to 3.0%. Five studies from 1978 to 1998 reported prevalence over various time frames of bipolar spectrum disorders, including hypomania and cyclothymia, in addition to bipolar I and bipolar II diagnoses. Prevalence in these studies ranged from 2.6% to 6.5%.

Recent studies of prevalence in clinical populations also suggest that bipolar disorder is common. The American Psychiatric Practice Research Network[9] reported that 12% of patients in psychiatric practice have a principal diagnosis of bipolar disorder. A recent study[10] reported that 45% of outpatients presenting for treatment of a major depressive episode were diagnosed with bipolar II disorder, along with an additional 4% who were diagnosed with bipolar I disorder.

BURDEN OF DISEASE

Bipolar illness is not only common, but for those affected, it is a significant source of distress, disability, loss of life through suicide, and burden on relatives and other caregivers. A survey of bipolar members of the National Depressive and Manic-Depressive Association (National DMDA)[11] found that 88% had been hospitalized psychiatrically at least once and that 66% had been hospitalized 2 or more times. Functional impairments associated with bipolar disorder may commonly persist, even despite resolution of symptoms when patients are in remission.[12,13]

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Table 1. Lifetime Prevalence of Bipolar I Disorder: Selected Major Studies[a]

Study	Year	Site	Method of Diagnosis	Prevalence
Epidemiologic Catchment Area survey[1]	1991	5 US sites	DIS	0.8%
National Comorbidity Survey[2]	1994	US	CIDI	1.6%
Cross-National Study[3]	1996	10 countries	DIS	0.9%

[a]Abbreviations: CIDI = Composite International Diagnostic Interview, DIS = Diagnostic Interview Schedule.

Table 2. Ten Leading Causes of Disability-Adjusted Life Years in the World in 1990 for Persons Aged 15 to 44 Years[a]

Rank	Disease or Injury
1	Unipolar depression
2	Tuberculosis
3	Traffic accidents
4	Alcohol use
5	Self-inflicted injuries
6	Bipolar disorder
7	War
8	Violence
9	Schizophrenia
10	Iron-deficiency anemia

[a]Data from Murray and Lopez.[14]

World Health Organization Rankings

The World Health Organization (WHO),[14] in a landmark publication, has estimated the global burden of various illnesses to the human population. One of the principal units of measurement utilized is the disability-adjusted life year (DALY). Bipolar disorder was ranked number 6 in worldwide causes of DALYs in 1990 among persons ages 15 to 44 years (Table 2).

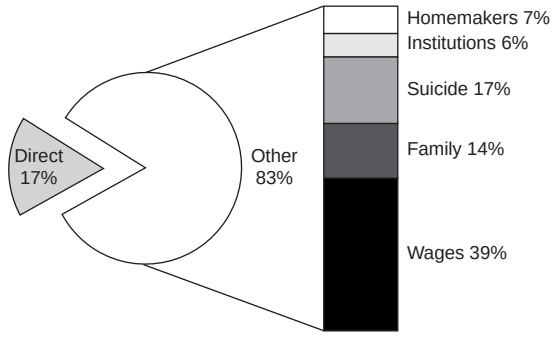
Employment

Loss of employment, difficulty regaining employment, and days lost from work all contribute to the disability associated with bipolar disorder. The National DMDA survey found that 37% of bipolar patients were currently unemployed.[11] A group of patients hospitalized for bipolar disorder in New Zealand had been employed in only 34% of cases, compared with 75% for the general population.[15] A study in patients in the United States found that only 43% of bipolar patients discharged from a psychiatric hospitalization were employed 6 months after discharge,[13] and only 21% were functioning at their expected level of employment.

Relationships

Bipolar illness can be very stressful on personal relationships. The National DMDA survey cited earlier[11] reported that 57% to 73% of bipolar patients were divorced or had experienced marital difficulties. The New Zealand study cited earlier[15] found that only 20% of patients were married prior to their hospitalization, compared with 55% of the general population.

Figure 1. Distribution of $45 Billion Total Cost of Bipolar Illness to Society in the United States in 1990[a]



[a]Data from Wyatt and Henter.[19]

Suicide

Along with unipolar depression, the lifetime risk of death by suicide in bipolar disorder is the highest for any mental or medical illness. This lifetime risk was estimated as 18.9% in a meta-analysis of 29 studies prior to 1988.[16] These authors indicated that mortality rates for untreated bipolar disorder are comparable to those for most types of heart disease and many types of cancer.

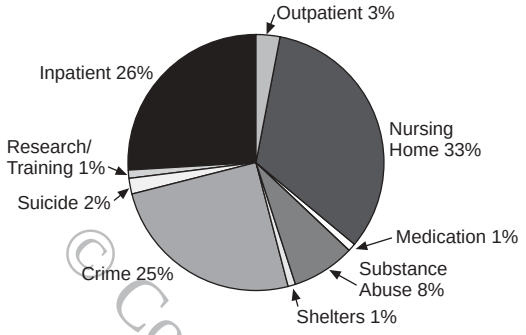
Family and Caregiver Burden

There have been relatively few studies of family or caregiver burden containing bipolar patients, and some of these have not always analyzed results for bipolar patients separately. In one study,[17] overall burden experienced by relatives of bipolar patients was comparable to that experienced by relatives of schizophrenic patients. A recent study[18] examined the burden experienced by caregivers of 266 patients with Research Diagnostic Criteria–diagnosed bipolar disorder. Fully 93% of caregivers experienced moderate or greater distress in at least 1 of 3 burden domains. These domains involved the stressful impact on the caregiver of the patient's distress and symptoms, the impact on the caregiver of illness-induced role dysfunction in the patient, and the impact of the patient's illness on the caregiver's work and leisure time.

COST OF ILLNESS

There is only 1 cost-of-illness study for bipolar illness that separates costs from those of other affective disorders.[19] This study reported total costs to society in the United States in 1991 of $45 billion, about 70% of that for schizophrenia.[20] Roughly 17% of these costs were direct costs, including costs of providing treatment and costs of illness-related crime. The remaining 83% of costs were the result of lost productivity due to unemployment, death by

Figure 2. Distribution of $7.6 Billion Direct Cost of Bipolar Illness to Society in the United States in 1990[a]



[a]Data from Wyatt and Henter.[19]

suicide, or family/caregiver burden. The distribution of total costs is shown in Figure 1. The distribution of direct costs is shown in Figure 2.

A recent study[21] examined the direct health care utilization and costs of bipolar spectrum illness in an insured population served by a large staff-model health maintenance organization (HMO). Annual treatment costs averaged $3416 per patient with a standard deviation of $6862. Five percent of patients accounted for approximately 40% of specialty mental health and substance abuse services.

BARRIERS TO TREATMENT

Significant delays in the diagnosis and treatment of bipolar patients appear to be more the rule than the exception. The National DMDA survey reported that 50% of bipolar patients did not seek help for 5 years or more after onset of their initial symptoms. The survey also reported that 48% of the patients did not receive a bipolar disorder diagnosis until seeing the third professional consulted, and that in 34% the interval between seeking help and receiving a bipolar diagnosis was more than 10 years.[11]

Even in recent clinical samples, evidence exists that bipolar disorder may be underdiagnosed. For example, a recent study concluded that 40% of a sample with a hospital discharge diagnosis of bipolar disorder had carried a unipolar diagnosis prior to admission.[22]

In the United States, many people have no health care insurance coverage. The 1994 National DMDA member survey reported that 59% of bipolar patients carried insurance through their employers, 11% had private insurance, 17% had Medicare or Medicaid, and 13% had no insurance.[11] Even among the insured, health care coverage for psychiatric illnesses including bipolar disorder is often subject to restrictions relative to medical illnesses through such mechanisms as annual limits on reimbursement or higher coinsurance or deductibles. As of June 1999, however, 21 states had enacted some form of parity legislation that mandates insurance coverage of bipolar illness on a par with medical illnesses. In June 1999, U.S. federal employees were granted full parity for mental health coverage including for bipolar illness. The HMO cost-of-treatment study cited earlier[21] estimated that parity coverage for bipolar patients would increase the overall cost of health care for this group by only 6%.

SUMMARY

In summary, bipolar disorder is one of the most burdensome illnesses that affects humankind. Multiple epidemiologic studies suggest a lifetime prevalence of bipolar I disorder of nearly 1%, making it a common illness. Moreover, studies of bipolar spectrum conditions suggest that prevalence for the entire range of bipolar illness may be as high as 6%. Despite the high prevalence, evidence exists that bipolar illness may be underdiagnosed in clinical settings.

Bipolar illness is not only common, but for those affected, it is a significant source of distress, disability, loss of life through suicide, and burden on relatives and other caregivers. Costs to society appear to be roughly 70% of those for schizophrenia. Despite the burden imposed by bipolar illness and the availability of several effective treatments for the illness, many bipolar patients in the United States continue to face significant barriers to care.

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