Depression in Patients Referred for Psychiatric Consultation
A Need for a New Diagnosis*

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Abstract: The authors analyzed 329 referrals for psychiatric consultation from medical and surgical wards. They found depression to be the most prevalent diagnosis (34%), with Major Depression being the most common DSM-III subtype (49%). Depression was predominant in the elderly (p<0.05), in women (p<0.05), and in patients with a high degree of psychosocial stressors (p<0.01). There were significant differences among the DSM-III subtypes of depression in some of these correlates. The authors emphasize the importance of DSM-III in differentiating among the subtypes of depression in referred patients but they suggest the need for a new diagnosis for depression in the physically ill.

Our purpose in this article is to report on a study documenting by DSM-III criteria the prevalence and severity of depression among medical and surgical patients referred for psychiatric consultation during a 1-year period and to investigate the relationship between depression and physical illness. Previous research has suggested a need to test the following hypotheses: 1) depression is the most common problem in referral for psychiatric consultation, and Adjustment Disorder with Depressed Mood is the most common subtype; 2) depression is not significantly correlated with age, sex, marital status, or the severity of psychosocial stressors; and 3) depression is more common in patients with certain types of physical illness.

Background

A previous study by Lipowski and Wolston [1] on patients referred for psychiatric consultation reported that the most common diagnosis is depressive disorder, ranging from 43% to 50% of all psychiatric diagnoses. This study was conducted before the DSM-III multiaxial system was instituted. The authors hypothesized that once DSM-III was instituted that most depression would fall in the categories of either Dysthymic Disorder or...
Adjustment Disorder with Depressed Mood (ADDM). They concluded that an "important task for future research (is) to establish the prevalence of the various depressive disorders among both referred and nonreferred patients" [1: p. 1610].

There have been two studies that have systematically utilized DSM-III with referred patients on psychiatric consultation-liaison (C-L) services [2,3]. McKegney et al. [2] found that Adjustment Disorder and Organic Mental Disorder were the most frequent Axis I diagnoses but they did not focus specifically on a depressive illness category. In fact they viewed ADDM as separate from "Depression" and they assumed, without critical examination, that it represented an individual's maladaptive response to illness or hospitalization. They only diagnosed 11% of patients with "Affective Disorder," which is extremely low when compared to other studies such as Lipowski and Wolston’s [1], and this increases to only 23% when ADDM is added in. Likewise, Slavney and Teitelbaum’s study [3] was not specifically concerned with depressed patients but they too found extremely low rates of Affective Disorder (9%), which increases to only 17% when the entire Adjustment Disorder category is included (they did not list ADDM as a separate category).

The correlation between depression and such factors as age, sex, and marital status has been examined in several earlier studies, though not in patients referred for psychiatric consultation. Epidemiological data suggest that depression is more likely to occur in women than men, but there is little consensus on the effects of age or marital status [4–7]. For medical inpatients, Moffic and Paykel [8] and Schwab et al. [9] found no significant difference in age, sex, or marital status between depressed patients and those not depressed.

Numerous investigators have also examined the relationship between depression and psychosocial stressors. Murphy [10], Brown et al. [11], and Paykel et al. [12] have shown psychosocial stressors to be an important etiologic factor for depression in the general population. Moffic and Paykel [8] have documented similar findings with medical inpatients.

The relationship between depression and physical illness is also strong. Depression has been associated with increased mortality for patients after open heart surgery [13], on renal dialysis [14], or on a psychiatric ward [15]. In a study of medical inpatients, Moffic and Paykel [8] found depression to be significantly correlated with the severity of physical illness but did not find differences among specific medical diagnoses. In contrast, Schwab et al. [9] and Cavanaugh [16] have reported that depression is most likely in patients with gastrointestinal diseases.

The above discrepancies among studies in the correlates of depression may be due, in part, to grouping patients together under the broad heading of depression instead of by specific DSM-III diagnoses.

The DSM-III multiaxial system [17] was published in 1980. In a brief report, Linn and Spitzer [18] describe the implications of DSM-III for liaison psychiatry and psychosomatic medicine: DSM-III is an attempt to decrease the gap between psychiatry and the rest of medicine through an approach to patient care that simultaneously encompasses the biologic, psychologic, and social factors that affect a given patient.

Although DSM-III was seen as an advance by C-L psychiatry, its acceptance has not been uncritical [19–21]. Leigh et al. [20] and Grossman [21] have focused on problems in differentiating Affective Disorder and Adjustment Disorder with Mood Disturbances. Our study focuses on this issue and specifically on depression among referred C-L patients.

Method

The study was conducted on the Psychiatric C-L Service at Strong Memorial Hospital, University of Rochester, New York. The sample included all patients referred during a 1-year period (January 1 through December 31, 1984). In this period, 329 inpatients were referred for psychiatric consultation.

For each patient referred, a standardized consultation report was prepared by the C-L Service, including data on Axis I (psychiatric diagnosis), Axis III (physical diagnosis), age, sex, marital status, and Axis IV (degree of psychosocial stressors).

Axis III data included the ICD-9-CM code for the principal discharge diagnosis and the ICD-9 category of illness to which the code belonged [22]. For clarity and brevity, the names of the ICD-9 categories were modified as shown in Table 2.

The term psychosocial stressor (Axis IV) is used in this article as it is defined in DSM-III: "a stressor judged to have been a significant contributor to the development or exacerbation of the current disorder" such as death of a relative, major illness, or divorce [17: pp. 26–27].
Depressed Patients Referred for Consultation

Axis I diagnoses were based on DSM-III criteria. Assignment of diagnoses required agreement among all psychiatric staff involved in each case, which always included attending supervisors and the Director or Associate Director of the C-L Service.

Of the 329 reports, 13 had only rule-out diagnoses and were excluded from the study. Fourteen patients were referred for psychiatric consultation two times and one patient was referred three times. For these patients, only the first consultative report was used in the study and the rest were excluded. The total number of patients in the analysis was 301.

The Axis I diagnostic categories of depression that pertain to this study are defined in DSM-III [17] as follows: a) ADDM (309.00); b) Dysthymic Disorder (300.40); and c) Major Depression (296.2, 296.3).

Patients not diagnosed as depressed were included in one of two categories: "other Axis I diagnosis" or "no psychiatric diagnosis." The latter includes V codes.

Statistical analyses of data were based upon chi-square tests with Yates correction. One-tailed $t$ tests were used to analyze the psychosocial stressor data.

Results

Source of Referral

The majority of patients were referred by medicine (66%), followed by surgery (28%), obstetrics and gynecology (4%), and pediatrics (2%).

Demographics of Referred Patients

The total sample of 301 patients included 60% females and 40% males, 24% aged under 30 years, 23% aged 30–45 years, 18% aged 46–64 years, and 34% aged 65 years or older; 29% were single, 35% married, and 36% widowed, divorced, or separated (Table 1).

Prevalence of Depression

Depression was the most common diagnosis (34%), followed by organic mental disorders (17%) (Table 3). DSM-III criteria delineated more precisely the specific diagnostic groupings of depression: Major Depression (49%), Dysthymic Disorder (14%), and ADDM (37%).

Correlates of Depression

Age. When depressed patients were compared to all other referred patients, their ages were found to be significantly different ($\chi^2 = 9.57, df = 3, p < 0.05$) (Table 1).

Depression in the elderly was mostly accounted for by those patients with Major Depression (Fig. 1). When the ages of these patients were compared to those of all other referred patients, the difference was found to be highly significant ($\chi^2 = 11.51, df = 3, p < 0.01$). No significant difference was found between the ages of patients with ADDM or Dysthymic Disorder and the remainder of the referred population.

Sex. Depression was found to have a significantly higher frequency in women than in men relative to other referred patients ($\chi^2 = 5.23, df = 1, p < 0.05$) (Table 1). No significant differences, however, were found in sex distribution when each of the three DSM-III diagnostic categories for depression was compared to the rest of the referred population. This indicates, in conjunction with examination of the raw data, that the female predominance in depressed patients was
Table 1. Demographic characteristics for 301 patients referred for psychiatric consultation

<table>
<thead>
<tr>
<th></th>
<th>ADDM</th>
<th>DD</th>
<th>MD</th>
<th>OD</th>
<th>ND</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>27</td>
<td>12</td>
<td>32</td>
<td>98</td>
<td>12</td>
<td>181 (60.1)</td>
</tr>
<tr>
<td>Male</td>
<td>11</td>
<td>2</td>
<td>18</td>
<td>80</td>
<td>9</td>
<td>120 (39.9)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-29</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>45</td>
<td>11</td>
<td>73 (24.2)</td>
</tr>
<tr>
<td>30-45</td>
<td>11</td>
<td>1</td>
<td>6</td>
<td>47</td>
<td>5</td>
<td>70 (23.3)</td>
</tr>
<tr>
<td>46-64</td>
<td>7</td>
<td>3</td>
<td>12</td>
<td>33</td>
<td>0</td>
<td>55 (18.3)</td>
</tr>
<tr>
<td>65+</td>
<td>14</td>
<td>5</td>
<td>26</td>
<td>53</td>
<td>5</td>
<td>103 (34.2)</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>8</td>
<td>5</td>
<td>9</td>
<td>52</td>
<td>12</td>
<td>86 (29.1)</td>
</tr>
<tr>
<td>Married</td>
<td>13</td>
<td>4</td>
<td>22</td>
<td>58</td>
<td>5</td>
<td>102 (34.6)</td>
</tr>
<tr>
<td>Separated/widowed/divorced</td>
<td>15</td>
<td>5</td>
<td>14</td>
<td>69</td>
<td>4</td>
<td>107 (36.3)</td>
</tr>
<tr>
<td><strong>Psychosocial stressors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean scores</td>
<td>5.03</td>
<td>4.86</td>
<td>4.81</td>
<td>4.56</td>
<td>4.95</td>
<td>4.71</td>
</tr>
</tbody>
</table>

*Adjustment Disorder with Depressed Mood
Dysthymic Disorder.
Major Depression.
Other Psychiatric Diagnosis.
No Psychiatric Diagnosis.

Distributed fairly evenly between the three separate diagnostic categories.

**Marital Status.** Patients were grouped into three categories: single, married, or other (Table 1). No significant differences were found between the groupings of depressed patients relative to other referred patients. This is also true when depressed patients from each DSM-III diagnostic category were compared to the rest of the referred population.

**Psychosocial Stressors.** The mean level of psychosocial stressors for depressed patients was significantly higher than for nondepressed patients (4.89 vs 4.60, p < 0.01). The mean level of psychosocial stressors for patients with ADDM was significantly higher than for other referred patients (5.03 vs 4.66, t = 2.33, p < 0.01), but the mean levels for patients with Dysthymic Disorder and Major Depression were not significantly different (t = 1.45) from those of other patients. However, there was a nearly linear relation between psychosocial stressors and level of depression (r = -0.95), i.e., the mean Axis IV score dropped as the level of depression increased.

**Physical Illness and Depression**

As Table 2 indicates, the greatest number of referred patients were included in the injury/poisoning ICD-9 diagnostic category of illness. This category largely represented suicide attempts and had a significantly high proportion of depressed patients.

Referred patients having neurologic or hematologic disorders were also more likely to be depressed, although this was not statistically significant. Patients having dermatologic and gastrointestinal disorders were significantly less likely to be depressed than other referred patients.

**Discussion**

Our findings are similar to Lipowski and Wolston's [1]: Depression was the most common diagnosis in patients referred to C-L psychiatry, followed by Organic Mental Disorders (Table 3). Whereas Lipowski and Wolston predicted a preponderance of patients having ADDM and Dysthymic Disorder, we found that the largest subtype (49%) of depressed patients referred for psychiatric consultation met the criteria for Major Depression. This underscores the importance of an accurate diagnosis for effective subsequent treatment.

Previous investigators have demonstrated no differences in the demographic characteristics of depressed medical inpatients relative to those not depressed [8,9]. In our sample of referred patients,
Table 2. Rates of depression by discharge diagnosis in 301 patients referred for psychiatric consultation

<table>
<thead>
<tr>
<th>Discharge Diagnosis</th>
<th>Total</th>
<th>Depressed (%)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurologic</td>
<td>15</td>
<td>60</td>
<td>NS</td>
</tr>
<tr>
<td>Hematologic</td>
<td>6</td>
<td>50</td>
<td>NS</td>
</tr>
<tr>
<td>Injury/poisoning</td>
<td>80</td>
<td>49</td>
<td>p&lt;.01</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>28</td>
<td>45</td>
<td>NS</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>21</td>
<td>43</td>
<td>NS</td>
</tr>
<tr>
<td>Endocrine/metabolic</td>
<td>15</td>
<td>40</td>
<td>NS</td>
</tr>
<tr>
<td>Genitourinary</td>
<td>6</td>
<td>33</td>
<td>NS</td>
</tr>
<tr>
<td>Psychiatric</td>
<td>29</td>
<td>31</td>
<td>NS</td>
</tr>
<tr>
<td>Respiratory</td>
<td>16</td>
<td>31</td>
<td>NS</td>
</tr>
<tr>
<td>Neoplastic</td>
<td>21</td>
<td>24</td>
<td>NS</td>
</tr>
<tr>
<td>Syndromes</td>
<td>10</td>
<td>10</td>
<td>NS</td>
</tr>
<tr>
<td>Dermatologic</td>
<td>15</td>
<td>6</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>25</td>
<td>4</td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td>Infectious</td>
<td>2</td>
<td>0</td>
<td>NS</td>
</tr>
<tr>
<td>Obstetric/gynecologic</td>
<td>11</td>
<td>0</td>
<td>NS</td>
</tr>
</tbody>
</table>

*By chi-square analysis.

Table 3. Axis I Diagnoses of 301 patients referred for psychiatric consultation

<table>
<thead>
<tr>
<th>Psychiatric Diagnosis</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressive Disorders</td>
<td>102</td>
<td>34</td>
</tr>
<tr>
<td>Organic Mental Disorders</td>
<td>52</td>
<td>17</td>
</tr>
<tr>
<td>Substance Use Disorders</td>
<td>38</td>
<td>13</td>
</tr>
<tr>
<td>Adjustment Disorders (other than with depressed mood)</td>
<td>28</td>
<td>9</td>
</tr>
<tr>
<td>Other Psychiatric Disorders</td>
<td>22</td>
<td>7</td>
</tr>
<tr>
<td>No Psychiatric Disorder</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>Schizophrenic Disorders</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>Somatoform and Anxiety Disorders</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>Disorders of Childhood</td>
<td>8</td>
<td>3</td>
</tr>
</tbody>
</table>

*Includes patients with Adjustment Disorder with Depressed Mood, Dysthymic Disorder, and Major Depression.

Table 2 demonstrates the importance of DSM-III in differentiating among the subtypes of depression in referred patients.

Differences among the DSM-III subtypes of depression are also demonstrated by our findings regarding psychosocial stressors and depression. Consistent with the literature [8,10–12], depression was positively correlated with the severity of psychosocial stressors relative to other psychiatric diagnoses. This effect was mostly accounted for, however, by those patients having ADDM. It was noted earlier that patients diagnosed with more severe forms of depression had lower levels of psychosocial stressors than those patients having Adjustment Disorder with Depressed Mood (see Table 1). This finding is consistent with the assumption that Major Depression is more often attributable to endogenous factors, whereas the milder form of depression accompanying Adjustment Disorder is a reactive condition.

In contrast to the literature [9,16], we found a very low rate of depression (4%) in patients with gastrointestinal disorders. A review of these cases revealed that almost all of the patients had substance use disorders as their primary psychiatric diagnoses. The discrepancy between our study and others could be explained, in part, by different methods of sampling depressed patients. We included only referred patients with a primary psychiatric diagnosis of depression, whereas Schwab et al. [9] and Cavanaugh [16] included medical patients on the basis of depression inventory scores, regardless of other psychiatric or emotional disturbances.

Depression was most prevalent in patients with neurologic and hematologic disorders. This may support Moffic and Paykel's findings [8] indicating a high rate of depression in patients with severe or debilitating illnesses.

Surprisingly, only five of the referred patients with neoplastic disorders (24%) were depressed. Of these, however, four had ADDM. Upon reviewing the cases of these four patients, we found that all were depressed secondary to their cancer.

Numerous investigators have examined the relationship between depression and physical illness. Moffic and Paykel [8], Schwab et al. [9], and Lipowski [23] have shown a high prevalence of depression (22%–33%) among hospitalized medical patients. Dovenmuehle and Verwoerdt [24] labeled this a "grief reaction or an acute situational depression." Schwab et al. [9] suggested a diagnosis of "reactive depression" for the medically ill. Mac-
Kenzie et al. [25] noted the similarity between grief secondary to the loss of a loved one and grief as a consequence of debilitating illness such as quadriplegia, intractable pain, or dementia. They suggested a new DSM-III diagnosis of “pathological mourning” for any depression secondary to a personal loss.

According to Lipowski and Wolston [1], diagnoses of depressive disorders for patients with physical illnesses are problematic for two reasons. “First, the somatic symptoms of depression are indistinguishable from those of chronic illness such as cancer. Second, the criteria for an Adjustment Disorder with Depressed Mood in DSM-III are difficult to apply in this population because DSM-III proclaims that such a disorder represents a maladaptive reaction (p. 1610).”

We reviewed the cases of the 38 patients having ADDM. For 70% of patients with that diagnosis, the major psychosocial stressor was the presence of a debilitating or life-threatening physical illness. It is noteworthy that in a collaborative study [26] regarding the prevalence of psychiatric disorders in cancer patients, ADDM represented 68% of all the psychiatric diagnoses.

Like Lipowski and Wolston [1], we question the appropriateness of assigning the diagnosis of ADDM in cases involving depressive reactions in the physically ill, forcing these patients into a procrustean bed of depressive illness. ADDM is defined in DSM-III [17: p. 300] as: “A maladaptive reaction to an identifiable psychosocial stressor, that occurs within three months of the onset of the stressor.”

The following case vignette from our study illustrates where depression is a normal response to a serious physical illness:

The patient was a middle-aged, married male who had a prominent job in his community. Seven months prior he was admitted to a local hospital for evaluation of shortness of breath and was subsequently diagnosed with acute leukemia. Initial chemotherapy at Strong Memorial Hospital was successful and resulted in remission. Over the past 2 weeks, however, the patient noted gingival bleeding, fatigue, and knee stiffness. When seen in hematology clinic for his monthly check-up he was found to have blasts in his peripheral blood smear and was readmitted for further chemotherapy. Psychiatric consultation was requested by the patient’s physician for evaluation of depression.

The patient appeared to have a depressed mood but no vegetative signs of depression. Most notable were his marked hopelessness regarding his future given his poor prognosis and feeling of loss regarding his health, occupation, and home. He was diagnosed as having an ADDM.

This person was given the DSM-III Axis I diagnosis of ADDM which does not accurately describe or reflect this patient’s condition. Clearly this man’s depression was not maladaptive but rather a normal and adaptive response to a very serious illness [27]. Looking ahead to DSM-IV, we suggest a new diagnostic category, Depressive Reaction Secondary to Physical Illness, for cases where depression seems to result from a physical disorder. Utilizing a grief reaction mode, we further suggest that this diagnosis be a V code for the first 3 months. During this initial period it would be considered normal for a patient to be depressed when experiencing a loss of health. The patient would be expected to experience any or all of the following associated symptoms: depressed mood, occasional feelings of helplessness and hopelessness, tearfulness, thoughts of dying, poor appetite and insomnia. If this expectable depressive reaction continued for more than 3 months, it would then be considered pathological and an Axis I diagnosis. The depression would then be more severe with morbid preoccupations (wishing to die and/or suicidal thoughts), feelings of worthlessness as well as persistent feelings of helplessness and hopelessness, anhedonia, continued anorexia with weight loss, worsening insomnia, psychomotor retardation and functional impairment. If this pathological Depressive Reaction Secondary to Physical Illness did not respond to psychotherapy and/or pharmacotherapy it might well become a Major Depression and/or eventually a Dysthymic disorder.

If a new diagnostic category, Depressive Reaction Secondary to Physical Illness, is adopted and utilized we believe that many of the depressed medical and surgical patients that we see in C-L psychiatry will be more accurately diagnosed, followed more carefully, and treated more effectively.

When this study was carried out at Strong Memorial Hospital on the Psychiatric C-L Service, Dr. Rosen was the Director. Dr. Gregory was a fourth-year medical student on an elective, Dr. Pollock was a Department of Psychiatry staff member, and Dr. Schiffmann was a visiting fellow.

The authors are indebted to the following individuals at the University of Rochester Medical Center for their support and assistance: Dr. Henry Herrera (Associate Director of the Psychiatric C-L Service at the time of the study); the attending superviros for general psychiatry consultations: Drs. Leon Canapary, Clifford Jacobson, and...
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