Identifying and Managing Depression in Women

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ABSTRACT

BACKGROUND: Depression is a complex disease often occurring with comorbid mental health or medical illnesses. It is highly prevalent and treated most frequently by a primary care physician (PCP). Depression affects the total health status of the patients who have it, and depression patients with comorbidities generally experience worse outcomes. It is also one of the most costly chronic illnesses, as measured by absenteeism and reduced productivity at work, direct medical costs, and suicide-related costs. Despite its high prevalence and being a frequent illness encountered during clinic visits, depression presents many challenges for the PCP in diagnosing and managing the illness and in bringing a patient to full remission. But depression is a highly treatable disorder. With appropriate diagnosis and intervention, depression can be reversed and most patients return to normal functioning.

OBJECTIVE: To provide an overview of a case study of a 24-month, managed care, depression care management program that incorporated a bilayered approach to optimize patient outcomes.

SUMMARY: Patients being treated for depression by a PCP were assigned a care coach who provided educational and goal-setting training by telephone. Psychiatric medical directors were involved in overseeing the treatment plan and consulted with PCPs to optimize treatment plans.

CONCLUSION: Initial outcomes of this program indicate that it was successful in improving patient care and also in reducing overall costs associated with a depressed population. Results included a reduction in the average Hamilton Depression Rating Scale from 10.4 to 5.6, a 56% reduction in hospital admissions for depression, and an 18% total reduction in health care costs per member per month.

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Depression is a highly prevalent mood disorder, which consistently has been shown to be at least twice as prevalent in women than in men.[1] Although the exact reason for this difference is not known, the higher prevalence of depression in women is most likely due to a combination of gender-related differences in cognitive styles, certain biological factors, and a higher incidence of psychosocial and economic stressors.[2] The development of depression in women is associated with several risk factors, including genetic links, previous stressful events, housing problems, relationship problems, loss of confidants, and fluctuations in female hormone levels.[3,4] Yet the single largest risk factor for a subsequent depressive episode, for either men or women, is a previous history of depression.[3]

Depression consists of a constellation of signs and symptoms with disturbances in emotional, cognitive, behavioral, and somatic regulation (Table 1). A sad or depressed mood is only one of many symptoms of clinical depression. Interest or capacity for pleasure or enjoyment may be markedly reduced, apathy and irritability may be increased, physical or somatic complaints are more likely, and anxiety is more often comorbid.[2,5] Depression in women has a significant negative impact on medical comorbidities, family dynamics, productivity at work, and self-care and adherence to medical regimens.[2,6]

However, depression is a highly treatable disorder. With appropriate diagnosis and intervention, depression can be reversed and most patients returned to normal functioning. Primary care providers, who treat up to 70% of patients with depression, face many challenges in bringing patients to remission.[7] Nevertheless, the endeavor can prove a valuable return; providing effective depression care programs, which engage and educate patients and offer individualized patient care through expert support and consultations, can improve patient outcomes and reduce overall health care costs.

Depression—Economic Impact

Major depressive disorders are considered among the most costly illnesses in the world. Greenburg et al. reported that the cost of depression in the United States exceeded $83.1 billion in 2000, with workplace costs accounting for the majority of the economic burden (62%), followed by direct costs (31.4%) and suicide-related costs (6.6%).[8] A study completed in 2002 dollars corroborates the findings of lost workplace productivity.[9] The economic burden of depression has been associated with a 30%-75% increase in health care costs after controlling for differences in medical comorbidities.[10]

A 2004 economic study found that patients who failed to achieve remission with initial therapy or consequent therapy experienced worse overall outcomes and used more overall health care resources than did patients with depression who

achieved remission.[11] Patients wih treatment-resistant depression were found to have used twice as many services as patients with treatment-responsive depression. There were more claims for comorbidities in nearly every body system. Treatment-resistant depression patients cost almost 4 times as much as employees from a random sample.[11]

Early-onset depression (i.e., depression occurring before the age of 22 years) in women leads to significant lost human capital, as measured by annual earnings. Women who developed depression before the age of 22 more often failed to graduate from college and were more likely to earn 12%-18% less than women whose onset of major depressive disorder occurred after age 21 or not at all.[12] It was also shown that early-onset depression was more closely associated with a history of drug and alcohol abuse. However, the timing and direction associated with this relationship remain unclear.[12]

Depression—Medical Impact

Depression is often comorbid with other psychiatric disorders, with anxiety disorders occurring in up to 70% of depression cases and substance abuse in 30%-60% of depression cases.[5,13] Depressive illness is also strongly associated with medical illness; however, the direction of causality in this association is still not entirely known. One study, involving up to a decade of observation, found that active major depression imposed a significantly increased risk of clinically apparent coronary heart disease in women with type 1 and type 2 diabetes.[14] Other studies and observations have shown a substantiated link between diabetes and depression.[15-17] Persons diagnosed with depression, with and without diabetes, have been found to have a higher incidence of metabolic disorders; obesity, along with its characteristic higher levels of fat deposits in the body and increased rates of insulin resistance, is linked to metabolic disorders.[18,19]

In women, recurrent major depression may be a risk factor for cardiovascular outcomes. In middle-aged women, the presence of depression is associated with subclinical atherosclerosis and doubles the risk for plaque in the coronary and carotid arteries after controlling for standard cardiovascular risk factors.[20,21] A study by Agatisa et al. determined that a single episode of major depression was not associated with plaque deposits, but recurrent major depression was associated with coronary and aortic calcification.[21] Wassertheil-Smoller et al. found that, in older women, depression is significantly related to cardiovascular disease risk and comorbidity (e.g., hypertension, stroke, or angina) after controlling for age, race, income, diabetes, smoking, cholesterol levels, medication use, body mass index, and exercise levels.[22] These investigators also found that in this population of older women, among those with no history of cardiovascular disease, depression is an independent predictor of cardiovascular disease and all-cause mortality.

It should be kept in mind that depression can also be a fatal illness. Of those with a mood disorder, 12%-20% commit suicide.

TABLE 1 DSM-IV-TR Criteria for Major Depressive Episode in Adults[49]

Requires a total of at least 5 symptoms.	
At least 1	Sad affect or loss of interests that significantly interfere with the person's life
Plus any 4	• Appetite or weight disturbance • Sleep disturbance • Activity disturbance • Abnormal fatigue or loss of energy • Abnormal self-reproach or inappropriate guilt • Abnormal poor concentration or indecisiveness • Abnormal morbid thoughts of death (not just fear of dying) or suicide
Duration	For at least 2 weeks

The symptoms are not due to physical illness, alcohol, medication, or street drugs.
The symptoms are not due to normal bereavement.
The symptoms are not due to another mental health diagnosis such as bipolar disorder.

DSM-IV-TR=Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision.

The highest risk of the first attempt is within 3 months after onset of a major depressive episode; the highest risk of second attempt is within 3 months of the first attempt. Women, especially those younger than 30 years of age, attempt suicide more often than men, but men are more often successful.[23-28]

Primary Care Physician Challenges

The social stigma surrounding depression is substantial and often prevents patients from seeking treatment. The costs of the illness are pain, suffering, disability, and potentially, death; yet depression can be ameliorated with effective treatment. Once identified, depression can almost always be successfully treated either by psychotherapy or medication, or both.[29] With appropriate diagnosis and intervention, depression can be reversed, and most patients will return to normal functioning. Severe depression often requires referral to a psychiatrist.

Patients tend to seek treatment at the primary care physician (PCP) level for convenience and stigma reasons and because they are "looking for the quick fix." PCPs write 60%-70% of all antidepressant medications in the United States.[30] However, at least 4 older reports suggest that PCPs and other non-psychiatric practitioners underdiagnosed and/or undertreated depressive conditions.[31-33] Paradoxically, these providers are the most likely to see these patients initially. Only one third to one half of those patients with major depressive disorder are properly recognized by their practitioners, and of these, only about 42% receive "minimally

adequate treatment."[34] Note that "minimally adequate treatment" here is defined as care considered adequate for depression in the mental health setting. Minimally adequate treatment is defined as treatment that is consistent with evidence-based practice guidelines (e.g., the American Psychiatric Association [APA] guidelines) for the diagnosis and treatment of depression. Typically this includes adequate dosage, administration, and duration of antidepressant medication and psychotherapy when indicated.

Despite the high prevalence of depression and the fact that it is frequently encountered during clinic visits, its proper diagnosis and management through full remission pose many challenges for the PCP (Table 2). Depression is a complex disease set, and identifying major depression or a depressive disorder is not as obvious as diagnosing other conditions such as high blood pressure. The depressed patient may present to the clinic for a different medical problem and with a group of more ambiguous symptoms, such as trouble sleeping, feelings of anxiety, or substance abuse. A patient's past history of depressive episodes and a risk factor for subsequent episodes may not be readily solicited. In addition, different subtypes of depression (Table 2) further challenge a PCP to make a definitive diagnosis and implement an adequate treatment plan during the typical short-duration primary care visit.

Goals of Therapy

The primary goals of depression treatment continue to be the full remission of symptoms, prevention of relapse and recurrence, and psychosocial and vocational restoration.[6,35] A careful and differential diagnosis is essential to meet these goals, particularly as the presence of residual symptoms may be due to conditions other than depression. After a clear diagnosis has been made, interventions that predictably decrease symptoms and morbidity are attempted first. Pharmacotherapy often starts with an antidepressant, given the strong evidence that drugs are effective. Concomitant non-pharmacologic therapy, such as psychotherapy, care coaching, problem solving, or other behavioral techniques, may also be added.[36]

Pharmacologic Therapy and Practice Guidelines

Once identified, depression can almost always be treated successfully, either with medication, psychotherapy, or both. Not all patients respond to the same therapy, but a patient who fails to respond to the first treatment attempted is highly likely to respond to a different treatment.[37] Antidepressant therapy remains the most common treatment modality, partially because PCPs are more comfortable treating the illness medically than engaging in psychotherapy.[38]

Antidepressants are some of the most commonly dispensed therapeutic drugs worldwide.[39] Selective serotonin reuptake inhibitors (SSRIs) account for the majority of all antidepressants sold.[39] Kornstein et al. showed that women respond better to an SSRI (sertraline) than to a tricyclic antidepressant (imipramine), to which men responded more favorably.[40] However, another study investigating the effectiveness of clomipramine, citalopram, paroxetine, and moclobemide, representing 3 antidepressant classes, did not find gender-based differences in response to class of antidepressant.[41]

Optimizing Antidepressant Therapy

For people who are diagnosed with major depression and receive acute treatment, response rates can be expected to approach 60%-70%.[35] A response to therapy is generally defined as >50% improvement from baseline in depressive symptoms. However, the ultimate goal of therapy is total remission or to be symptom free. APA prescribing guidelines recommend approaches to achieve a higher level of efficacy with first-line antidepressant medication for suboptimal responders by increasing dosage and augmenting treatment with psychotherapy, or, for non-responders, by switching to a new monotherapy and augmenting treatment with psychotherapy (Figure).[36]

If a partial response is seen, APA guidelines recommend optimizing therapy with the first drug by lengthening the time it is used or increasing the dosage for an additional 4 to 8 weeks and then reevaluating. Partial response at 4 weeks of treatment may fully remit with continued therapy. Patients who exhibit no response after 4 weeks of adequate doses are unlikely to respond to that agent with continued treatment.[42] The guidelines recommend switching to a different antidepressant for patients who have had no response to initial therapy and as a choice for those who continue to experience suboptimal results.[36] These recommendations are the same for both women and men.

Less Than Optimal Treatment Outcomes

Several factors may contribute to less than optimal treatment outcomes (Table 3). Nearly half of medical outpatients who receive an antidepressant prescription discontinue treatment during the first month.[43] Therefore, follow-up is extremely important during the first month of treatment. Discontinuation rates within 3 months can reach 68%, depending on the population studied and the agent used.[44] Adverse effects of antidepressants are major contributors to medication non-adherence, as is the patient's lack of understanding concerning treatment and perceived lack of efficacy.[45,46]

Compliance and patient outcomes are improved if the patient is educated about side effects and the clinician is available to take telephone calls.[47,48] Side effects may be ameliorated if the dose is gradually increased.[42]

A Case Study—Depression Care Management

Recognizing the components contributing to some of the poor outcomes in patients with depression and that most patients treated for depression are seen by physicians who do not specialize in mental health, a commercial health maintenance organization (HMO) implemented a disease management program for depression. This program focused efforts on supporting the

PCP in implementing best practices in depression care and also provided patients with basic education and goal setting by assigning each with a behavioral care coach. The initial program design and results of this case study are presented here.

Patient-members targeted for the depression program were identified from a national, commercial HMO claims database. Members were identified using both *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) codes and National Drug Code (NDC) numbers over a period of 12 months (August 1, 2003, to July 31, 2004) prior to outreach and enrollment. The ICD-9-CM codes required at least 1 treatment episode tied to a definitive diagnosis of a depressive disorder and NDC numbers tied to at least 1 prescription of an antidepressant with a definitive diagnosis of a depressive disorder. Patients were contacted by telephone and were invited to enroll in the program. The HMO was conducting several case studies for different disease states, and patients participating in the depression cohort study were limited to enrolling in only this depression disease management program. Therefore, if patients had already enrolled in a diabetes program, they were excluded from the cohort study in the depression program. Additionally, patients who had more than $50,000 in claims were excluded from the study. Members who were not enrolled in the HMO for the full 24 months of the study were also excluded.

Enrolled in the study were 1,292 members; of these, 31 were outliers with claims higher than $50,000, and 152 were not eligible for the full 24 months of the study. Thus, 1,109 members remained in the study. Members in this study were enrolled in the program for 12 consecutive months with active telephonic coaching. Members received at least 1 care coaching call per month over the 12-month period. The timeline included periods for preenrollment eligibility, patient identification and contact, information gathering, initial and posttreatment patient assessment, and posttreatment observation.

TABLE 2 The Primary Care Physician Challenge[49-51]

Categories of Depressive Mood Disorders	Challenges for the PCP of Trying to Bring a Patient With Depression to Remission

• Adjustment disorder (mild and transient)
• Dysthymia (chronic)
• Bipolar depression
• Postpartum depression
• Seasonal affective disorder
• Postpartum depression
• Premenopausal dysphoria
• Depression secondary to other factors
• Major depressive episode
  ◦ With melancholic features
  ◦ With psychotic features
  ◦ With catatonic features
  ◦ With atypical features
	• Short time allowed for a time-intensive patient
	• Possibility for several comorbidities
	• Inadequate training to discern differences of depressive type
	• Patient has clinic visit for a different medical problem
	• Patients may be poorly adherent with the prescribed drug
	• Psychotherapy typically not available in the PCP office
	• Antidepressants used suboptimally
	  ◦ Dosage
	  ◦ Administration
	  ◦ Duration

PCP = primary care physician.

TABLE 3 Factors Related to Less Than Optimal Treatment Outcomes[50-51]

- Inaccurate diagnosis
- Antidepressant inadequate dosing
- Antidepressant side effects
- Treatment nonadherence
- Early medication discontinuation
- Social stigma
- Prescriber nonadherence to published treatment guidelines
- Comorbid disorders (e.g., substance abuse, bipolar or atypical depression)
- Certain drug therapies (e.g., methyldopa, beta blockers) that can exacerbate depression

Patient Characteristics

The average depression rating score measured by the Hamilton Depression Rating Scale (HDRS) rating for patients entering the program was 9.4, indicating mild levels of depression. The population included approximately 75% women. Most patients had medical comorbidities. Between 65% and 70% of patients were being treated for their depression by PCPs.

Intervention

Enrollees were assigned a primary behavioral health clinician who provided psychoeducational support and coaching but not formal cognitive behavior therapy or formal psychotherapy. The patient component encompassed patient-centric motivation to improve education and understanding, as well as identification of barriers and poor psychosocial support. Poor adherence patterns to treatment and medication were identified. Psychosocial barriers and barriers to medication adherence were identified using a proprietary assessment developed for this program. There were a number of categories for each parameter, such as no family member available to the member within a day's drive or poor adherence to medication due to the side effect profile. Patients then were offered education and motivational techniques intended to help them follow treatment and medication regimens. Goal setting was also instituted.

Provider Consultation

The PCP was provided with peer-to-peer telephonic consultation by a psychiatric medical director who offered oversight of and recommendations for individual patient treatment plans. Treatment plans were monitored against evidence-based medicine guidelines, including a review of the antidepressant being used, its dose, and duration of use. This method allowed identification of suboptimal treatment plans and enhancement when necessary.

FIGURE Modified American Psychiatric Association Treatment of Major Depressive Disorder

Initiation Phase (4-8 weeks)

Begin treatment plan

- Use SSRI as an initial choice.
- Match antidepressant side effects to patient expectations.
- Counsel patient on expected side effects and importance of alerting the physician if they are intolerable.

4-8 weeks: Reassess adequacy of response

No Response	Partial Response	Full Response	Monitor for
• Change antidepressant. • Add or change to psychotherapy.	• Change dose. • Augment antidepressant. • Change antidepressant. • Add psychotherapy.	• Go to Continuation Phase treatment.	• Danger to self or others • Symptoms • Functional status • Response to treatment • Side effects • Compliance • Signs of mania • Concomitant mental disorders • Concomitant medical comorbidities

Continuation Phase
(16-20 weeks following remission: Reassess every 8-12 weeks)

- 16-20 weeks following remission, maintain therapy to prevent relapse.
- Use same dose in Continuation Phase as during Initiation Phase.

Maintenance Phase

- On average, 50%-80% of patients will have another episode of MDD.
- Consider Maintenance Phase treatment for patients to prevent recurrence of MDD.
- In general, use the same full antidepressant dose that was used during prior phases of treatment.
- Consider risk of recurrence, severity of episodes, side effects of continuous treatment, and patient preferences.

Adapted from American Psychiatric Association, Practice Guideline for the Treatment of Patients With Major Depressive Disorder, Second Edition, and Journal of Family Practice. Recommendations for electroconvulsive therapy not included in this flowchart.

MDD=major depressive disorder; SSRI=selective serotonin reuptake inhibitor.

Primary care response to the overall program was typically quite receptive. The level of PCP satisfaction was substantiated with consultative calls through a provider satisfaction survey process. This revealed >90% satisfaction with this element of the survey.

Initial Outcomes

Initial results indicate that the program was successful in improving patient care and reducing overall costs associated with a depressed population. The average HRDS score was reduced to 5.7. Hospital admissions were reduced by 17%; these admissions were exclusive of any mental health diagnosis code. Hospital admissions associated with depression were reduced by 56%, and overall health plan per member per month (PMPM) costs were reduced by 18.3% from baseline. These proved to be encouraging results, indicating that PCPs can be successful in managing a depressed patient to improved outcomes. This program, which offers the PCP some guidance on treatments and provides care coaching to patients, makes effective use of currently available treatments for depression and provides patients with the best outcomes and improved health care services. A 6-month study of this same population was done using a control group from the same health plan. The results were favorable, demonstrating >1.5:1 return on investment when applying the control group's utilization/cost factors. The control group data were not available for the full 12-month study.

Summary

Depression is a complex mental illness and is often comorbid with medical conditions. Prevalence of depression is higher in women by about 2:1. The PCP tends to treat more cases of depression than does any other provider. However, the PCP faces several challenges, including time needed for accurate diagnosis and treatments and especially management of the optimal use of antidepressants. Treatment for comorbid medical illness and depression presents a tremendous therapeutic challenge. Yet challenges with the accurate diagnosis and the development and implementation of adequate treatment plans can be overcome.

The case study presented in this article highlights disease management efforts to support the PCP in best care practices for depression and provide patients with basic education and goal setting through the services of a behavioral care coach. Initial outcomes of this case study indicated that the program successfully improved patient care and also reduced overall costs associated with a depressed population. Measured results showed a reduction in the average HRDS score, a 56% reduction in hospital admissions for depressed patients, and a 18% reduction in total PMPM.

This program demonstrates that PCPs can effectively treat depressive illness with support from specialist consultation. The results are overall better patient outcomes and reduced health plan costs.

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