CME ACTIVITY

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CME Objectives

After completing this CME activity, physicians practicing clinical psychiatry should be able to:
- Describe the differences between individuals who did and did not receive antidepressant therapy in a national sample of young adults with major depression
- List possible reasons for the gap between the established efficacy of antidepressants and the rates of treatment for major depression in clinical settings

Statement of Need and Purpose

Physicians responding to surveys in *The Journal of Clinical Psychiatry* and related activities have requested current information on the medical management of depression in uninsured populations and in managed care settings. This CME enduring material reports on the use of antidepressants in patients with major depression. There are no prerequisites for this activity.

Accreditation Statement

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Faculty Disclosure

In the spirit of full disclosure and in compliance with all ACCME Essential Areas and Policies, all faculty for this CME activity were asked to complete a full disclosure statement. The information received is as follows:

None of the authors of this article has significant commercial relationships to disclose relative to the presentation.

Underuse of Antidepressants in Major Depression: Prevalence and Correlates in a National Sample of Young Adults

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Background: Epidemiologic studies have reported disturbingly low rates of treatment for major depression in the United States. To better understand this phenomenon, we studied the prevalence and predictors of antidepressant treatment in a national sample of individuals with major depression.

Method: Between 1988 and 1994, 7589 individuals, aged 17–39 years and drawn from a national probability sample, were administered the Diagnostic Interview Schedule as part of the National Health and Nutrition Examination Survey. Interviewers asked about prescription drug use and checked medication bottles to record the name and type of medications.

Results: A total of 312 individuals, or 4.1% of the sample, met DSM-III criteria for current major depression. Only 7.4% of those with current major depression were being treated with an antidepressant. Among individuals with current major depression, being insured and having a primary care provider each predicted a 4-fold increase in odds of antidepressant treatment; telling the primary provider about depressive symptoms predicted a 10-fold increase in treatment.

Conclusion: The study's findings support the notion that a serious gap exists between the established efficacy of antidepressant medications and rates of treatment for major depression in the "real world." Underreporting of depressive symptoms to providers and problems with access to general medical care appear to be 2 major contributors to this problem.

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The "decade of the brain" has seen the development of new medications promising improved treatment for major depression.[1] However, authors have warned of the possibility for a gap between efficacy, how well depression treatments work under ideal settings, and effectiveness, how those drugs are used in the "real world."[2] A number of studies conducted in the 1980s documented disturbingly low rates of treatment among individuals with major depression across a variety of settings.[3,4]

Given the known efficacy of antidepressant medications, why are rates of treatment for major depression so low in the community? A recent consensus conference[5] defined 3 types of factors—patient, provider, and health care system—that might contribute to undertreatment of major depression. Using a national survey that combines a standardized depression diagnostic instrument with a systematic check on prescription drug usage, we conducted the current study to examine how each of these factors might contribute to low rates of somatotherapy for major depression in the community.

METHOD

Sampling Frame

The sampling frame for the study was the 1988–1994 National Health and Nutrition Examination Survey (NHANES III), conducted by the National Center for Health Statistics to provide national estimates of the health and nutritional status of the civilian, noninstitutionalized population of the United States. The eligible population for the NHANES III was the U.S. civilian noninstitutionalized population aged 2 months or older. The sample design employed a stratified multistage probability sample of counties, blocks, and persons randomly selected from households. Eighty-one counties were selected from 26 states from which approximately 40,000 persons of all races were selected. All selected persons were asked to complete an extensive interview and were examined in a large mobile examination center.[6–8]

Table 1. Patient Characteristics for Overall Sample and Those With Current Depression

| | | Current Major Depression (N = 312) | | | | |
| | Entire Sample (N = 7589) | Taking Antidepressant (N = 23) | Not Taking Antidepressant (N = 289) | Statistic | | |
Characteristic				t or χ^2	df	p
Demographics						
Age, y, mean ± SD	27.6 ± 6.6	27.7 ± 6.6	32.4 ± 5.6	t = 3.4	310	< .001
Female, N (%)	4116 (54.2)	17 (73.9)	217 (75.1)			
Education, y, mean ± SD	12.1 ± 7.1	12.0 ± 2.8	11.6 ± 7.5	t = 0.59	53	< .55
Nonwhite, N (%)	2912 (45.8)	7 (30.4)	119 (41.1)	χ^2 = 1.0	1	.31
Annual income, N (%)						
< $15,000	2641 (34.8)	7 (30.4)	112 (38.9)	χ^2 = 1.7	2	.41
$15,000–$29,999	2360 (31.1)	5 (21.7)	75 (25.8)			
≥ $30,000	2588 (34.1)	11 (47.8)	102 (35.3)			
Depression characteristics, mean ± SD						
Number of symptoms	NA	9.7 ± 2.8	7.5 ± 2.8	t = 3.6	310	< .001
Duration, wk	NA	37.9 ± 32.2	17.7 ± 1.5	t = 3.4	310	< .001

Diagnosis of Major Depression

The Diagnostic Interview Survey (DIS)[9] is a structured interview schedule developed for use in the Epidemiologic Catchment Area study. It has been shown to be a valid method of obtaining DSM-III diagnoses[10] and has commonly been used as a diagnostic instrument in community samples.[11,12]

Trained interviewers administered the DIS depression module to all examinees 17–39 years old. Informed consent was obtained from each prospective participant after the interview and examination process had been fully explained. A total of 86% of eligible individuals completed the interview, for which they received a $50 fee. Cases in which patients reported suicidal ideation were reviewed by the supervising physician, and if needed, respondents were referred for emergency psychiatric evaluation and treatment.

The sample for this study was drawn from all participants who were surveyed with the DIS (N = 7589). Within that sample, we focused on individuals with DIS-diagnosed current major depression (N = 312).

Use of Antidepressants

All participants were asked whether they had taken any prescription medications in the past month. For each medication reported, the interviewer asked to see the medication container to record the name of the product. If a container was not available, the interviewer asked for specific information on the product name, generic drug name, and dosing schedule. Antidepressants, sedatives/hypnotics, and antipsychotics were identified based on 1994 Food and Drug Administration product codes.

Information on other treatments, such as psychotherapy, electroconvulsive therapy, and light therapy, was not collected in the survey.

Statistical Methods

The study focused on individuals meeting DSM-III criteria for current major depression. Bivariate analyses—chi-square tests for dichotomous variables and t tests for continuous variables—compared the patient, provider, and system characteristics of depressed individuals who were and were not taking an antidepressant. Next, logistic regression was used to model the effect of provider and system characteristics on antidepressant use, adjusting for clinical and demographic variables. There was insufficient statistical power to conduct tests for interaction terms (for instance, the effect associated with both insurance and a primary care provider) among the sample with current depression. The SAS statistical package, version 6.12 (SAS Institute, Cary, N.C.), was used for all analyses.

RESULTS

Characteristics of the Sample and Use of Antidepressants

A total of 312 individuals, or 4.1% of the total sample of 7589, met criteria for current major depression (Table 1). Of respondents meeting criteria for major depression, only 23 individuals (7.4%) were taking an antidepressant. Of those with major depression who were not taking an antidepressant, an additional 8 individuals (2.8%) were taking another psychotropic medication (6 of these were taking a sedative/hypnotic, and 2 were taking an antipsychotic). Of those with current major depression who were taking an antidepressant, one was also taking an antianxiety medication, and one was also taking an antipsychotic medication.

An additional 216 individuals met criteria for lifetime but not current major depression. Within this group, 17 (7.9%) were currently on antidepressant treatment, presum-

Table 2. Provider and System Factors Associated With Antidepressant Use for Individuals With Current Major Depression (N = 312)

	Taking Antidepressant (N = 23)		Not Taking Antidepressant (N = 289)		Statistic			
Factor	N	%	N	%	OR[a]	χ^2	df	p
Provider factors								
Has a primary care medical provider	20	87.0	143	49.5	3.9	5.5	1	.003
Told the primary physician								
about depressive symptoms	17	73.9	66	22.8	9.6	15.2	1	< .001
System factor								
Insured	20	87.0	156	54.0	3.8	4.5	1	.03

[a]Odds ratio (OR) represents the increased odds of antidepressant treatment associated with each variable, adjusted for age, gender, education, race, income, and number and duration of depressive symptoms.

ably as maintenance therapy for a depressive disorder in remission.

Finally, 44 (0.6%) of the 7061 individuals without current or past major depression were taking an antidepressant, presumably for other indications such as anxiety disorders, dysthymia, or chronic pain.

Predictors of Antidepressant Treatment

Demographics. Among patients with current major depression, those taking antidepressants were significantly younger than those not taking antidepressants (p < .001). Race, gender, and income were not significantly associated with use of antidepressants.

Patient factors. Depressed patients receiving treatment reported a greater number of depressive symptoms and a greater mean duration of depressive episode than those not taking antidepressants (see Table 1). However, most patients with serious depressive syndromes still were not on antidepressant treatment. Of the 170 individuals with current depression and suicidal ideation, only 18 (10.6%) were taking an antidepressant medication.

Provider and system factors. In multivariate models, presence of health insurance or a primary care provider each predicted an approximately 4-fold increase in odds of antidepressant treatment for an individual with major depression (Table 2). Whereas three fourths of those who had told their primary provider about their depressive symptoms were taking an antidepressant, fewer than one fourth of patients not taking an antidepressant had related this information to their physician. (Presumably, the 6 patients who were taking an antidepressant but had not told their primary care physician about their symptoms were receiving those medications through another provider.) In multivariate models, telling the primary physician about depressive symptoms predicted an almost 10-fold increase in odds of being on antidepressant treatment.

CONCLUSION

The study found that fewer than 1 of 13 young adults with DIS-diagnosed major depression were receiving antidepressant treatment. Differences between individuals who did and did not receive antidepressant therapy in this sample suggest that patient, provider, and system factors may each be playing a role in these disturbingly low rates of somatotherapy.

Before discussing the findings in detail, several limitations of the survey for assessing treatment of depression should be noted. First, because the NHANES III did not solicit detailed information about psychotherapy and other nonpharmacologic treatments, it is important to consider the possibility that at least some depressed individuals in the sample were receiving such treatment in lieu of antidepressants. However, the treatment of major depression with psychotherapy alone is becoming increasingly uncommon in both specialty mental health[13,14] and general medical settings.[15] Second, the NHANES III data set did not include data about actual prescription rates or specific medications or dosages. It is possible that some patients had not followed through with prescriptions for antidepressants; conversely, others were likely using them at inadequate dosage and/or for insufficient duration. Third, the sample included only adults under age 40 and thus should be generalized with caution to older populations.

Finally, the list of explanatory variables was limited by the use of secondary data. The NHANES III did not collect data on patient factors such as concerns about stigma and medication side effects, provider factors such as physician specialty, or system factors such as mental health managed care constraints or formulary restrictions. Thus, the study is better seen as a demonstration of how patient, provider, and system issues might each lead to undertreatment rather than an exhaustive categorization of those factors.

Our findings were consistent with earlier studies reporting that individuals with the most symptoms and the longest duration were the most likely to receive antidepressant treatment.[16,17] However, only 1 of 9 individuals with major depression and suicidal ideation was on an antidepressant treatment. Clearly, a number of individuals with serious symptomatology are going untreated.

While having health insurance predicted a significantly increased likelihood of antidepressant treatment, only a small minority (9.2%) of depressed patients who were insured received antidepressant therapy. Although insurance can provide an important first step in obtaining access to the health care system, it is not sufficient to ensure diagnosis and treatment of depression.

Having a primary care medical provider predicted a more than 5-fold increase in likelihood of receiving antidepressant treatment for young adults with major depression. The continuity and coordination of care afforded by primary care may serve to improve rates of depression recognition and treatment, either directly or via mental health referrals. This finding underlines the potential importance of general medical providers in treating major depression in the community and supports the dissemination of guidelines[18] and development of collaborative models[19] to improve the recognition and treatment of depression in primary care settings.

However, having a primary care provider cannot facilitate referral or treatment for depression unless a patient tells that provider about his or her depressive symptoms. Confiding sensitive information to a medical provider requires trust in both physicians and in the larger system of care. The cost-containment mechanisms associated with the growth of managed care have been implicated in attenuating trust between patients and their providers in recent years.[20,21] Because diagnosis and monitoring of mental illnesses rely primarily on history and mental status examination rather than diagnostic testing, they would be expected to be particularly sensitive to such disruptions in the physician-patient relationship.

Even the best antidepressant treatments currently available still do not offer perfect efficacy for either the symptoms or the morbidity seen with depressive disorders.[22] Researchers will continue to seek to develop treatments that can optimize acceptability for patients and clinical outcomes. As these new treatments emerge, continued vigilance will be needed to assure that they are successfully implemented in the community.

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Instructions

Physicians may receive up to 1 hour of Category 1 credit toward the American Medical Association Physician's Recognition Award by reading the article starting on page 234 and correctly answering at least 70% of the questions in the posttest that follows.

1. Read each question carefully and circle the correct corresponding answer on the Registration form.

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1. **Which of these statements is true?**
   a. Efficacy generally refers to a treatment's usefulness in real world conditions.
   b. Effectiveness is best ascertained by studying a treatment under ideal conditions, in order to filter out possible bias.
   c. Efficacy and effectiveness are synonymous and therefore go hand in hand.
   d. Treatments with demonstrated efficacy may not be used effectively in day-to-day clinical practice.

2. **What is the prevalence of current major depression in community samples?**
   a. 1%–2%
   b. 4%–5%
   c. 8%–10%
   d. 15%–20%

3. **Which of the following is true of rates of antidepressant use for patients with current major depression?**
   a. Rates of treatment in the community are high, due to increasing awareness about depression and antidepressants.
   b. Rates in specialty mental health settings are low, since psychotherapy is the most common mode of treatment for major depression.
   c. Primary care physicians are relatively unimportant in the provision of antidepressant therapy, since most major depression is treated in specialty mental health settings.
   d. The relatively high prevalence of depression in primary care practices makes it particularly important to seek to effectively diagnose and treat depression in these settings.

4. **Which of the following is *not* a predictor of antidepressant use in the community?**
   a. Greater number of depressed symptoms
   b. Female gender
   c. Presence of a primary care provider
   d. Presence of health insurance

5. **Which factor appears to play the single largest role in determining receipt of antidepressant therapy in the community?**
   a. Telling a physician about depressive symptoms
   b. Presence of health insurance
   c. Treatment in a carve-out mental health organization
   d. Race of the patient

6. **Which of the following is true of depression in medical settings?**
   a. It is rarely associated with suicidal ideation.
   b. It is frequently undetected.
   c. When detected, it is almost always referred to specialty mental health providers for treatment.
   d. It is generally seen in patients with vague and unsubstantiated complaints rather than organic medical illness.

7. **What might be other factors that were unmeasured in the current study determining rates of antidepressant use among depressed patients?**
   a. Restrictions on access to mental health referrals
   b. Medical provider characteristics
   c. Patient attitudes about mental illness
   d. All of the above

Answers to the September 1999 CME posttest

1. c   2. b   3. d   4. a   5. a   6. d   7. a

Circle the one correct answer for each question.

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1. Was the educational content relevant to the stated educational objectives?   ❏ Yes ❏ No

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