Research Letter

Prevalence of Depression and Use of Antidepressant Pharmacotherapy Among Ambulatory Patients With Diabetes Mellitus in the United States

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ABSTRACT

Background: Persons with diabetes mellitus (DM) exhibit a higher rate of depressive illness than does the general US population. Despite this finding, previous research has documented a low rate of diagnosis and/or treatment with antidepressant pharmacotherapy among persons with DM.

Objective: The aim of this study was to examine the current rate of diagnosis of depression and use of antidepressant pharmacotherapy among persons with DM.

Results: We examined data from the 2005 US National Ambulatory Medical Care Survey. In 2005, there were an estimated 35,345,845 persons with an office-based visit for DM and, of these, 3,823,508 (10.8%) had a concomitant diagnosis of depression. Within this subset, 1,830,620 (47.9%) were prescribed antidepressant pharmacotherapy.


Key words: depression, diabetes mellitus, antidepressant pharmacotherapy.
INTRODUCTION

Diabetes mellitus (DM) is a major cause of morbidity, mortality, and economic expense worldwide. It is estimated that by the year 2050, the global prevalence of DM will increase by 165% from that of the year 2000. In the United States alone, the number of cases is projected to reach 48 million by that year. In 2002, direct and indirect expenditures for DM in the United States were estimated to exceed $132 billion. Recent evidence suggests that persons with DM exhibit a higher rate of depressive illness than does the general population in the United States. Despite these findings, previous research from a decade ago found a low prevalence of both a diagnosis of depression and of treatment with antidepressant pharmacotherapy among persons with DM. Given the greater awareness of the interface between DM and depression since the late 1990s, we hypothesized an increase in the prevalence of a diagnosis of depression and of treatment with antidepressant pharmacotherapy among persons with DM. The aim of this research was to examine the prevalence of a diagnosis of depression and the use of antidepressant pharmacotherapy among persons with DM.

MATERIALS AND METHODS

We examined data from the 2005 US National Ambulatory Medical Care Survey (NAMCS). The NAMCS is a national probability sample designed and conducted by the National Center for Health Statistics of the US Centers for Disease Control and Prevention. Data were collected by the US Bureau of the Census. Our objectives were to discern the following: (1) the characteristics of ambulatory patients aged ≥20 years having an office-based physician–patient encounter (visit) for DM (International Classification of Diseases, Ninth Revision, Clinical Modification [ICD-9-CM] codes 250.00–250.93); (2) the characteristics of the subset of ambulatory patients having an office-based visit for DM with a concomitant diagnosis of depression (ICD-9-CM codes 296.2–296.36, 300.4, or 311); and (3) the extent of use of antidepressant pharmacotherapy (US National Drug Code category number 0630).

Statistical Analyses

Analyses were performed using SAS software version 9.1.3 (SAS Institute Inc., Cary, North Carolina).

RESULTS

In 2005, there were an estimated 35,345,845 persons who had an office-based visit for DM; of these, a subset of 3,823,508 patients (10.8%) had a concomitant diagnosis of depression (Table). Within this subset, 1,830,620 patients (47.9%) were prescribed antidepressant pharmacotherapy (eg, tricyclic antidepressants, selective serotonin reuptake inhibitors). A majority of persons with DM and a majority within the subset with a diagnosis of depression were female (52.8% and 62.8%, respectively) and non-Hispanic whites (76.0% and 84.2%). A majority of patients with DM and those in the subset were treated by their primary care physician (73.5% and 81.0%), while the reporting physician was in general/family practice (34.4% and 46.3%) or
Comorbid illnesses occurred more frequently in patients with DM and depression than in patients with DM alone, as evidenced by a higher rate of hypertension (73.3% vs 64.1%, respectively), hyperlipidemia (70.7% vs 46.3%), and obesity (40.3% vs 20.5%), among other illnesses (Table).

**DISCUSSION**

Previous research using the NAMCS covering the time from 1990 through 1995 found that only 1.25% of patients with DM had a recorded diagnosis of depression...
and that <3% of these patients were prescribed antidepressant pharmacotherapy. Our findings indicate that by 2005, there had been important increases in the rate of diagnosing depression in patients with DM and in the rate of prescribing antidepressant pharmacotherapy among these patients. Previous research found a greater likelihood of the development of depression in persons with DM who exhibited comorbid illnesses. Depression in patients with DM has been associated with inadequate glycemic control and significant physical decline. Additional research is needed to elucidate the factors affecting the rates of diagnosing depression and of prescribing antidepressant pharmacotherapy among persons with DM.

**Limitations**

Our study has several limitations inherent in the NAMCS. The NAMCS documents the diagnostic codes chosen and recorded by individual physicians rather than results stemming from a standardized and independent clinical appraisal. Neither patient symptomatology nor illness severity is recorded in the NAMCS, therefore negating the chance to investigate the mediating influence these factors have on a physician’s conclusion relative to a diagnosis of depression and/or decisions associated with the prescribing of antidepressant pharmacotherapy. The NAMCS only provides data regarding the name of each medication prescribed during a specific office visit or continued from a prior visit, without any indication of the dosage, regimen, subsequent experience with adverse events, or length of use.

**Conclusion**

Our findings serve to quantify the prevalence of a diagnosis of depression and use of antidepressant pharmacotherapy for its treatment among persons with DM in the United States.

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**References**


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