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The Mental Health Comorbidities of Diabetes

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Individuals living with type 1 or type 2 diabetes are at increased risk for depression, anxiety, and eating disorder diagnoses. Mental health comorbidities of diabetes compromise adherence to treatment and thus increase the risk for serious short- and long-term complications, which can result in blindness, amputations, stroke, cognitive decline, decreased quality of life, and premature death. When mental health comorbidities of diabetes are not diagnosed and treated, the financial cost to society and health care systems is substantial, as are the morbidity and health consequences for patients. In this View point, we summarize the prevalence and consequences of mental health problems for patients with type 1 or type 2 diabetes and suggest strategies for identifying and treating patients with diabetes and mental health comorbidities.

Depression

Prevalence

One of the most serious mental health comorbidities associated with diabetes is major depressive disorder. Major depressive disorder affects 6.7% of US adults 18 years or older¹ and is more likely to be diagnosed in US adults with diabetes. Overall, rates of depression among individuals with type 1 or type 2 diabetes across the life span are 2 times greater than in the general population.² A 2011 meta-analysis reported that rates of depression are higher in youth with type 1 diabetes compared with those without the disease, although the differences are not as large as reported in older studies.² Young adults with type 1 diabetes are especially at risk for poor physical and mental health outcomes and premature mortality.²

Mechanisms Linking Diabetes and Depression

Major advances in the past 2 decades have improved understanding of the biological basis for the relationship between depression and diabetes.² A bidirectional relationship might

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exist between type 2 diabetes and depression: just as type 2 diabetes increases the risk for onset of major depression, a major depressive disorder signals increased risk for onset of type 2 diabetes.² Moreover, diabetes distress is now recognized as an entity separate from major depressive disorder.² Diabetes distress occurs because virtually all of diabetes care involves self-management behavior—requiring balance of a complex set of behavioral tasks by the person and family, 24 hours a day, without “vacation” days. Self management tasks for type 1 diabetes involve carefully checking blood glucose levels to adjust multiple doses of insulin needed day and night. This is balanced with food and physical activity decisions that influence blood glucose levels, most immediately to prevent hypoglycemia, which can lead to seizures and coma.

Living with diabetes is associated with a broad range of diabetes-related distresses, such as feeling over-whelmed with the diabetes regimen; being concerned about the future and the possibility of serious complications; and feeling guilty when management is going poorly. This disease burden and emotional distress in individuals with type 1 or type 2 diabetes, even at levels of severity below the threshold for a psychiatric diagnosis of depression or anxiety, are associated with poor adherence to treatment, poor glycemic control, higher rates of diabetes complications, and impaired quality of life.

Costs of Comorbid Depression in Diabetes

Depression in the context of diabetes is also associated with poor self-care with respect to diabetes treatment (non adherence), poor glycemic control, more long-term complications, decreased quality of life, and increased unemployment and work disability.² Depression among individuals with diabetes is also associated with increased health care use and expenditures, irrespective of age, sex, race/ethnicity, and health insurance status.³

Treating Depression in Persons With Diabetes

Depression can be successfully treated in persons with diabetes.¹ Efficacy trials of depression treatment with psychotherapy and with antidepressant medications have shown moderate effects on depression but minimal effects on glucose control. In contrast, effectiveness trials, like the collaborative care model evaluated among persons with diabetes and comorbid depression in primary care, have demonstrated significant improvements in depression and glucose control as well as medical cost savings.⁴

Anxiety Disorders

Many persons with diabetes and depression also have comorbid anxiety disorders, such as generalized anxiety disorder, panic disorder, or posttraumatic stress disorder. Anxiety disorders also can occur in persons with diabetes but without comorbid depression.⁴ Increased anxiety in persons with type 1 or type 2 diabetes can occur when diabetes is first diagnosed and when diabetes complications first occur.⁵ Anxiety disorders complicate living with diabetes and its management in at least 3 ways: (1) serious anxiety disorders largely overlap with the symptoms of hypoglycemia, making it difficult for the person with diabetes to differentiate between feelings of anxiety and symptoms of low blood glucose that require immediate treatment; (2)preexisting anxiety about injections or blood draws may lead to

severe anxiety or panic disorders when a person is diagnosed with diabetes; and (3) fear of hypoglycemia, a common source of severe anxiety for persons with diabetes, can lead some patients to maintain blood glucose levels at above target levels. Parents of children with type 1 diabetes are also at high risk for extreme fear of hypoglycemia.⁵

Eating Disorders

Women with type 1 diabetes have a 2-fold increased risk for developing an eating disorder and a 1.9-fold increased risk for developing subthreshold eating disorders than women without diabetes.⁶ Less is known about eating disorders in boys and men with diabetes. Disturbed eating behaviors in women with type 1 diabetes include binge eating and caloric purging through insulin restriction, with rates of these disturbed eating behaviors reported to occur in 31% to 40% of women with type 1 diabetes aged between 15 and 30 years.⁶ Moreover, disordered eating behaviors persist and worsen over time. Women with type 1 diabetes and eating disorders have poorer glycemic control, with higher rates of hospitalizations and retinopathy, neuropathy, and premature death compared with similarly aged women with type 1 diabetes without eating disorders.⁶

Screening for the Mental Health Comorbidities of Diabetes

Despite the potential adverse effects of mental health problems on diabetes outcomes and health care expenditures, only about one-third of patients with these coexisting conditions receive a diagnosis and treatment. According to current American Diabetes Association standards of care, “People with diabetes should receive medical care from a team that may include physicians, nurse practitioners, physician’s assistants, nurses, dietitians, pharmacists, and mental health professionals with expertise in diabetes....”⁷ The advisory also recommends that physicians “Routinely screen for psychosocial problems such as depression and diabetes-related distress, anxiety, eating disorders, and cognitive impairment.”⁷ Yet few diabetes clinics provide mental health screening or integrate mental/behavioral health services in diabetes clinical care.⁴ It is neither practical nor affordable to use standardized psychiatric diagnostic interviews to diagnose mental health comorbidities in individuals with diabetes. Brief paper-and-pencil self-report measures such as the Beck Depression Inventory or the Center for Epidemiologic Studies Depression Scale that screen for depressive symptoms are practical in diabetes clinical settings, but their use remains rare.

Conclusions

From economic, public health, and humanitarian perspectives, identifying and treating the mental health comorbidities among patients with diabetes should be a priority. Young adults with diabetes are especially vulnerable to mental health comorbidities as they experience multiple transitions—geographically, socially, and between pediatric and adult care—that may place them at risk for loss to medical follow-up and poor health outcomes. The high prevalence and costs of depression in the context of diabetes, combined with evidence that behavioral factors are important for effective diabetes self-management, create an important opportunity to integrate mental health screening and treatment into multidisciplinary team

diabetes care, to improve patient and public health outcomes, and to help decrease health care expenditures.

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