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Optimizing Care for People With Serious Mental Illness and Comorbid Diabetes

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Abstract

Diabetes and obesity among patients with serious mental illness are common. Use of second-generation antipsychotics compounds risk, and widely prevalent unhealthy behaviors further contribute to negative outcomes. This column describes Targeted Training in Illness Management, a group-based psychosocial treatment that blends psychoeducation, problem identification, goal

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setting, and behavioral modeling and reinforcement. The intervention has been adapted to the primary care setting and is targeted at individuals with serious mental illness and diabetes. A key feature of the intervention is the use of peer educators with serious mental illness and diabetes to teach and model self-management. Promising results from a 16-week trial are reported.

The literature on diabetes and obesity among patients with serious mental illness demonstrates that metabolic disturbances are common, that the use of second-generation antipsychotics compounds risk, and that widely prevalent unhealthy behaviors among persons with serious mental illness will further contribute to negative outcomes (1). Consistent with the evidence that serious mental illness and diabetes interact to affect outcomes, one study of people with mental illness who had medical comorbidity found that the majority (82%) of individuals believed that the status of their overall health was related to their recovery from psychiatric illness (2).

National commissions and professional groups have called for development of best practices that address the unique needs of patients with serious mental illness for treatment of their comorbid general medical and psychiatric conditions. Teaching individuals with diabetes to better self-manage their disease is a cornerstone of diabetes treatment. Approaches that promote active self-management, that are group-based, and that feature peer support may be particularly useful. Patient-related factors associated with optimal self-management of a chronic mental disorder overlap with those associated with optimal self-management of a chronic general medical condition and include self-efficacy, health knowledge, social support, and avoidance of substance misuse. Group-based self-management approaches that use peer support have not been widely implemented among people with serious mental illness, such as schizophrenia, bipolar disorder, and major depression, who have comorbid diabetes. Ideally, care for individuals with serious mental illness and a general medical condition should address both psychiatric and general medical problems concurrently, minimize barriers to care, maximize strengths of the individual, and take advantage of features in the social environment that promote health.

This column describes elements of effective self-management approaches, as well as an innovative, group-based self-management intervention for people with serious mental illness and diabetes

Considerations for best practices

Self-management for behavior change

Approaches that promote self-management may help individuals with serious mental illness who have metabolic problems engage in healthy behaviors that improve metabolic outcomes. Faulkner and Cohn (3) reported on a review of 23 studies of weight reduction among patients with schizophrenia, five of which were cognitive-behavioral approaches. A naturalistic multicenter study of 232 Korean patients with schizophrenia demonstrated the effectiveness of a 12-week behavioral weight management program (4). Jean-Baptiste and colleagues (5) reported that patients with schizophrenia who were engaged in a behavioral program that included food replacement showed significant improvement in weight compared with patients in a control group.

Only a limited number of studies have specifically addressed management of diabetes among people with serious mental illness, and fewer still have addressed management of diabetes and serious mental illness concurrently. In a pilot study of 64 patients with serious mental illness, McKibbin and colleagues (6) developed a 24-week behavioral lifestyle program for patients with schizophrenia or schizoaffective disorder who had comorbid diabetes. The program was associated with significant improvement in weight loss and body mass index.

Peer support

Peer support can enhance positive health behaviors among people with serious mental illness. It has received increased attention as a way to promote health change among persons with serious mental illness. Consumers who work in treatment programs for this population use their credibility as someone who “has been there before” as well as their relationship with program participants to advocate for the benefits of active treatment engagement (7).

Care setting

Unfortunately, general medical conditions are not addressed in many psychiatric settings. In one study of 250 patients with serious mental illness, fewer than half reported that their psychiatrist had ever asked them about blood pressure, blood sugar, or cholesterol levels (2). In the primary care setting, there may be little consideration of how mental illness affects the ability to manage general medical conditions. A collaborative approach that empowers the individual patient and fosters self-management may help overcome some of these barriers and lead to improved outcomes (8).

Targeted Training in Illness Management

Innovative methods that combine cognitive and social approaches might improve both mental health outcomes and general medical outcomes among people with serious mental illness and diabetes. We have developed a group-based psychosocial treatment that blends psychoeducation, problem identification, goal setting, and behavioral modeling and reinforcement. The intervention—Targeted Training in Illness Management (TTIM)—has been adapted to the primary care setting and is targeted at individuals with serious mental illness and diabetes. A key feature of the intervention is the use of peer educators with serious mental illness and diabetes to teach and model self-management. Groups are co-led by nurses with expertise in diabetes management.

Pilot trial

We conducted a prospective, uncontrolled, case-series pilot trial of TTIM with 12 patients with serious mental illness and diabetes in a safety-net primary care setting. The study was approved by the local institutional review board and was conducted from August 2009 to January 2010. Informed consent was obtained from all individuals before their participation. TTIM groups were co-led by a nurse educator and a peer educator with serious mental illness and diabetes. TTIM was conducted in two phases. The first phase consisted of 12 weekly group sessions. The second phase consisted of four weekly telephone follow-up sessions. All individuals in the pilot trial had a *DSM-IV* diagnosis of serious mental illness

(schizophrenia or schizoaffective disorder, bipolar disorder, or major depressive disorder) that waters confirmed with the Mini-International Neuropsychiatric Interview (MINI), and all participants had type II diabetes.

TTIM is a manualized intervention adapted from our previous work, including the Life Goals Program and Collaborative Care Model developed by Bauer and McBride (10) and Diabetes Awareness and Rehabilitation Training developed by McKibbin and colleagues (8). In-person sessions of 60 to 90 minutes were collaboratively delivered in a group format with six participants per group by the nurse educator and the peer educator. [Session content and peer educator training are described in and online appendix to this column at ps.psychiatryonline.org.]

Primary outcomes were change in symptoms from baseline, global psychopathology, functional status and role impairment, general health status, and biological parameters of diabetes status. Symptoms were evaluated with the Brief Psychiatric Rating Scale (BPRS) and the Montgomery-Asberg Depression Rating Scale (MADRS). Global psychopathology was measured with the Clinical Global Impressions (CGI). Functional status was measured with the Global Assessment of Functioning (GAF), and role impairment was measured with the Sheehan Disability Scale (SDS). Diabetes outcomes were measured by hemoglobin A1c (HbA1c) and body mass index (BMI). General health status was measured with the 12-item Short-Form Health Survey (SF-12). Secondary outcomes included healthy behaviors as measured with the 12-item Self-Rated Diabetes Self-Care Activities (SDSCA) Questionnaire.

Outcomes of the pilot trial

The 12 participants in the pilot trial ranged in age from 33 to 62 years (median 49.5). Five individuals had less than a high school education, and seven had a high school degree or some college. Five individuals lived alone. Nine were from racial-ethnic minority groups. Baseline symptom scores (BPRS and MADRS) suggested moderate degrees of psychopathology. Scores for self-reported mental health status (SF-12 mental component summary [MCS]) were substantially below (almost 2 standard deviations) that of the general U.S. population. Scores for physical health status (SF-12 physical component summary [PCS]) were also substantially below the average level of the U.S. general population. Nine of the 12 participants were obese (mean±BMI=36±8). Almost half of the subjects had poorly controlled diabetes (HbA1C>8) (values >6 are abnormal). Five of the 12 participants had baseline high blood pressure readings.

The overall trend across most measures was toward clinically relevant improvement—a 15% mean reduction in BPRS and 48% mean reduction in MADRS scores, and a 7% improvement in SF-12 MCS and 15% improvement in SF-12 PCS scores. Although it is not surprising that weight and HbA1c did not show a statistically significant improvement over the 16 weeks, analysis of HbA1c in particular was promising. At week 16 HbA1c had improved for eight participants (67%); for one participant with controlled diabetes it stayed the same, and for three participants it increased slightly. Among those who had improvements in HbA1c, the average change was a clinically important reduction of .83±.74. TTIM did not specifically focus on weight loss, and this might explain why weight did

not significantly change over 16 weeks. However, a statistically significant improvement was noted in self-rated dietary behaviors on the SDSCA diet subscale (baseline 54.58 ± 13.04 , compared with endpoint 68.75 ± 16.11 ; two-tailed $p = .006$). One might expect that over a longer period these dietary changes would translate into weight loss and overall better health. [A table with outcome data is available as an online appendix to this report at ps.psychiatryonline.org.]

Recommendations

Among individuals with serious mental illness, the effects of medical comorbidity, including diabetes and related conditions, are devastating, including a reduction in life span of approximately 25 years. Although no treatment approach can address all barriers to good outcomes, approaches that may be particularly successful include the following. First, location in a primary care setting can take advantage of the ability to monitor diabetes, manage crises, and integrate the intervention with ongoing primary care. Although it could be argued that the intervention would be just as effective if located in a mental health setting in which the appropriate infrastructure was present, it is likely that this would be more costly and require greater modifications to most existing care settings than is practical. Second, peers who have serious mental illness and diabetes can model and support recovery efforts. Not only is the use of peers effective, but it takes advantage of strengths in the community, including cultural matching that may enhance recovery efforts. Individuals with serious mental illness and diabetes often feel isolated and marginalized because they are unaware of the wide prevalence of serious mental illness and diabetes and they know few individuals who effectively manage these serious comorbid illnesses.

A third important element is a focus on self-management. For some individuals with serious mental illness and diabetes, interacting with others who have the same illnesses can be transformative and empowering, motivating them to become more active in their own care and leading to substantial improvements in depression, psychosis, and metabolic parameters. Fourth, the most practical approaches should use staff who are already likely to be present in a care system. As with our intervention, use of diabetes nurses who are already embedded in many primary care settings requires only an incremental increase in training and effort to target a population that is likely present in these clinics but that may be underserved.

Although conducting an intervention that involves nurses or other clinicians, peer educators, and groups of patients with serious mental illness and diabetes imposes a fairly extensive organizational burden (such as the need to schedule and implement groups, train peer educators, and follow-up with participants over a period of at least several months), the changes in outcome could save health care entities time and resources in the long run through reduced need for medications, emergency room visits, and hospitalization.

Conclusions

Few interventions specifically focus on individuals with serious mental illness and diabetes, and fewer still are practical for implementation in real-world settings. Given the enormous burden caused by serious mental illness and diabetes, there is a critical need for further

exploration and development of multidimensional approaches that concurrently target mental health and general medical health. TTIM, which energizes individuals to take an active role in their own care and which concurrently addresses both mental health and general medical health, is an example of an emerging best practice. Research is needed on service models that holistically address the health needs of persons with serious mental illness and diabetes. In addition, health policy makers should develop better ways to serve people who may receive mental health treatment and general medical care in different locations by helping providers to implement these best practices and compensating systems that do so.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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