

CBT for Depressed Diabetes Patients Improves Overall Health

News Author: Laurie Barclay, MD
CME Author: Désirée Lie, MD, MEd
Medscape Nurses

April 28, 2011 - Cognitive behavioral therapy (CBT) targeting depression in patients with diabetes is associated with improvements in overall health but not in glycemic control, according to the results of a randomized trial reported online April 20 in *Medical Care*.

“Depression is a common, treatable issue for many people who have diabetes,” said lead author John D. Piette, PhD, a senior research scientist at the Veterans Affairs Ann Arbor Healthcare System and professor of internal medicine at the University of Michigan Health System, in a news release. “Unfortunately, most busy clinics cannot provide the level of intensive care these patients need. This study shows that telephone-delivered counseling can improve patients’ access to effective depression care, improve their cardiovascular health and get them moving again.”

The goal of the study was to assess the effect of telephone-delivered CBT targeting management of depressive symptoms, physical activity levels, and diabetes-related outcomes among 291 patients with type 2 diabetes and significant depressive symptoms, defined as Beck Depression Inventory (BDI) scores of 14 or higher. After recruitment from community-based, university-based, and Veterans Affairs healthcare systems, participants were randomly assigned to receive usual care or a manualized telephone CBT program delivered weekly by nurses for 12 weeks, followed by 9 monthly booster sessions.

At first, the CBT sessions exclusively targeted depression management, and then a pedometer-based walking program was added. The main study endpoint was 12-month hemoglobin A1c (A1c) levels, with blood pressure as a secondary endpoint. Pedometer readings measured physical activity levels, and standardized scales assessed depression, coping, and health-related quality of life.

At baseline, A1c levels were relatively good, and these remained stable at follow-up with no difference between groups. Compared with patients in the control group, those in the intervention group had a 4.26-mm Hg decrease in systolic blood pressure ($P = .05$), greater increases in step counts (mean difference, 1131 steps/day; $P = .0002$), and greater reductions in depressive symptoms (58% vs 39% remitted at 12 months; $P = .002$). Patients in the intervention group also had relative improvements in coping and in health-related quality of life.

“This program of telephone-delivered CBT combined with a pedometer-based walking program did not improve A1c values, but significantly decreased patients’ blood pressure, increased physical activity, and decreased depressive symptoms,” the study authors write. “The intervention also improved patients’ functioning and quality of life.”

Limitations of this study include duration of follow-up limited to 12 months, limited generalizability because only 16% of participants were racial/ethnic minorities, and inability to determine the effects of separate intervention components. In addition, 31% of patients contacted refused participation.

“Health systems should consider routinely offering structured telephone psychotherapy to their patients with diabetes and depression,” said senior study author Marcia Valenstein, MD, MS, also from the University of Michigan Health System. “Patients with depression and additional chronic

medical conditions do better if their depression is addressed first, if it is addressed systematically, and if exercise is also encouraged. Delivering therapy by telephone makes it feasible to reach large numbers of patients who may not attend traditional in-person appointments.”

The National Institutes of Health, the Michigan Diabetes Research and Training Center, and the Michigan Institute for Clinical and Health Research supported this study. The study authors have disclosed no relevant financial relationships.

Medical Care. Published online April 20, 2011. [Abstract](#)

Clinical Context

In the United States, 18% of men and 28% of women with diabetes have depression, and they are less likely to respond to depression care and more likely to have poor outcomes of diabetes. CBT has been shown to be useful in managing depression and improving glycemic control; it can also be used to improve physical activity level in patients.

This is a randomized controlled trial of patients with diabetes and depression to examine the impact of a 12-month, telephone-delivered CBT program with attention to both depression and physical activity, on A1c levels, blood pressure, depression, quality of life, and coping skills.

Study Highlights

- ◆ Included were patients recruited from 2006 to 2008 from 3 systems: a community-based healthcare system, a university health system, and the Veterans Affairs healthcare system.
- ◆ Patients older than 21 years with diabetes were recruited from primary care clinics within each site and identified via electronic health records. Additional patients were recruited by advertising.
- ◆ Patients were first screened by telephone, and those who were eligible screened a second time in person.
- ◆ Excluded were those with serious medical illness, bipolar disorder or schizophrenia, and those with a change of antidepressant medication within 30 days. Also excluded were those who were unable to walk 10 minutes or 1 block without resting.
- ◆ The Patient Health Questionnaire-9 was used to measure depressive symptoms.
- ◆ The BDI was used to screen for depression. A score of less than 14 was used as an exclusion as well as a score of less than 21 on the Short Orientation Memory Concentration test.
- ◆ Of 5542 patients who were screened, 291 both met inclusion criteria and had complete data on all outcome measures.
- ◆ Patients receiving intervention received a 12-month CBT program delivered by telephone by trained nurses using a manual. Each nurse audiorecorded initial sessions with their patients, and the recordings were reviewed by a CBT supervisor.
- ◆ During each session, nurses monitored depression using the Patient Health Questionnaire-9 and followed patients' activity levels using logs and records of CBT exercises.
- ◆ There were 12 weekly sessions followed by 9 monthly boosters.
- ◆ Primary care physicians were informed of patients' depression status.
- ◆ Enhanced usual care consisted of being given a copy of *The Feeling Good Handbook* for depression and other materials about diabetes and walking. Primary care physicians were also informed about the depression.
- ◆ The primary outcome measure was A1c level.
- ◆ Secondary outcome measures were blood pressure, BDI and Patient Health Questionnaire-9 scores, quality of life using the Short Form-12, medication adherence, and perceived self-efficacy.
- ◆ 30% of patients were from the community site, 36% from the university, and 34% from Veterans Affairs.
- ◆ 145 patients were assigned to the intervention and 146 to enhanced usual care.
- ◆ Mean age was 56 years, 51% were woman, 58% were married, 63% were receiving oral medications for diabetes only, and 57% used antidepressant medication.

- ◆ On average, patients in the intervention group completed 13.5 of 21 possible telephonic CBT sessions, and half completed at least 17 sessions.
- ◆ At baseline, 70% of patients had A1c levels of less than 8%. There were no significant differences between the groups for the primary outcome of A1c level.
- ◆ Patients in the intervention group showed a significant 4.26-mm Hg lower systolic blood pressure vs the usual-care group overall ($P = .05$), with a 5.88-mm Hg lower blood pressure in the group that had a systolic blood pressure of more than 130 mm Hg at baseline ($P = .05$).
- ◆ There were no differences in diastolic blood pressure between the groups.
- ◆ There was a significant improvement in mental composite score for the Short Form-12.
- ◆ There were no differences in the Physical Composite Summary scores.
- ◆ The control group experienced significant decline in physical functioning from baseline to 12 months, but the intervention group had no decline. There was a significant difference between the groups.
- ◆ At baseline, the daily step score was 3000 steps per day for each group, and by follow-up, the intervention group averaged an increase of 1131 steps daily vs no significant change in the control group ($P < .0002$).
- ◆ There was a 4.54-point greater improvement in BDI scores for the intervention group ($P < .0001$).
- ◆ At 12 months, 58% of patients in the intervention group vs 39% in the control group had remitted depression (BDI score < 14 ; $P = .002$), and 10% vs 18% had severe depression (BDI score > 29 ; $P = .05$).
- ◆ Patients in the intervention group had greater improvement in coping skills and self-efficacy for physical activity vs patients in the control group (both $P < .05$).
- ◆ The authors concluded that a telephonic CBT program at 12 months addressing depression and physical activity was effective in lowering blood pressure, relieving depression symptoms, and improving coping skills and physical activity among patients with diabetes and depression.

Clinical Implications

- ◆ A telephone-delivered CBT program at 12 months for patients with diabetes and depression does not improve A1c levels.
- ◆ A telephone-delivered CBT program improves systolic blood pressure; relieves depressive symptoms; and improves coping skills, physical activity levels, and self-perceived efficacy in patients with diabetes.

CME Test

Zie oorspronkelijk artikel