

# Educational interventions appear to be effective for patients with poorly controlled diabetes

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Three randomized controlled trials published Online First today in *Archives of Internal Medicine* examine the effectiveness of behavioral and educational interventions for patients with poorly controlled diabetes. All three reports are part of the journal's Health Care Reform series.

In one report, Katie Weinger, Ed.D., of the Joslin [Diabetes](#) Center, Boston, and colleagues, evaluated the efficacy of a behavioral intervention for improving glycemic control among patients with long-duration poorly controlled diabetes. The trial randomized 222 adults with diabetes to three treatment groups: structured behavioral treatment (included a five-session manual-based, educator-led structural intervention with cognitive behavioral strategies), group attention control (educator-led attention control group education program) and individual control (unlimited individual nurse and dietitian education sessions for six months).

The authors found that all participants, regardless of treatment group, showed glycemic improvement, however the structured behavioral group showed greater improvements compared to the other two treatment groups. Additionally, participants with type 2 diabetes showed greater improvement than patients with [type 1 diabetes](#). Quality of life, number of daily glucose meter checks and frequency of diabetes self-care did not differ by type of intervention over time; however, patients with type

2 diabetes showed higher quality of life scores than patients with type 1. The authors concluded that, "a structured, cognitive behavioral program is more effective than two control interventions in improving glycemia in adults with long-duration diabetes."

In a second report, JoAnn Sperl-Hillen, M.D., of HealthPartners Research Foundation and HealthPartners Medical Group, Minneapolis, and colleagues evaluated a total of 623 adults from Minnesota and New Mexico with type 2 diabetes and glycosylated hemoglobin (HbA1c) concentrations of 7 percent or higher. Participants were randomized to receive either group education, individual education or usual care (no assigned education; control group).

The authors found that individual education resulted in better glucose control in patients with established suboptimally controlled diabetes than did group education. Although mean (average) HbA1c concentrations decreased across all treatment groups, levels decreased significantly more in the individual education group (-0.51 percent) when compared with the group education (-0.27 percent) and the usual care (-0.24 percent) groups. Participants in the individual education group also were more likely to have HbA1c levels at or below 7 percent than participants in either the group education or usual care treatments. "In conclusion, among patients with [type 2 diabetes](#) of relatively long duration and HbA1c levels of 7 percent or higher, short-term glucose control improved more in those receiving individual diabetes education than in those receiving group diabetes education or assigned to no education," the authors write.

A third study, conducted by Dominick L. Frosch, Ph.D., of the Palo Alto Medical Foundation Research Institute, Palo Alto, Calif., and colleagues examined the effectiveness of disease management programs among socially and economically disadvantaged patients with poorly controlled diabetes. The study included 201 patients (72 percent African American

or Latino; 74 percent with annual incomes of less than or equal to \$15,000) with poorly controlled diabetes. Participants were randomized to receive either an intervention package consisting of a 24-minute video behavior support intervention with a workbook and five sessions of telephone coaching by a trained diabetes nurse (treatment group), or a 20-page brochure developed by the National Diabetes Education Program (control group).

The authors found that most participants in both the treatment group (94.3 percent) and control group (93.5 percent) had received the assigned treatment materials and the majority (88.5 percent in the treatment group and 89.8 percent in the control group) rated the clarity of the information presented as good, very good, or excellent at the one-month follow-up. Across treatment groups there was a significant overall reduction in mean (average) HbA1c levels from study initiation to six-month follow-up; however differences between the groups were not significant. The authors also found that differences in other clinical measures (including blood lipid levels and blood pressure) and measures of diabetes knowledge and self-care behaviors were also non-significant.

"More intensive and therefore more expensive interventions may be a worthwhile investment to lower the high costs associated with poorly managed diabetes in the long term; however, larger structural interventions also may be necessary to overcome the many challenges faced by these severely disadvantaged [patients](#)," the authors conclude.

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