Group Visits for the Treatment of Hypertension Among Diabetics: Success Without a Pill?

Edelman D, Fredrickson S, Melnyk S, et al. Medical clinics versus usual care for patients with both diabetes and hypertension: a randomized trial. Ann Intern Med 2010;152:689–96.

Study Overview

Objective. To determine the effectiveness of group medical clinics for the treatment of patients with uncontrolled diabetes and hypertension.

Design. Randomized controlled trial.

Setting and participants. Patients were enrolled from 2 Veterans Affairs Medical Centers in North Carolina and Virginia. 239 patients with poorly controlled diabetes mellitus (HbA1c ≥ 7.5%) and hypertension who were on medications for the diabetes were studied. Reasons for study exclusion included receipt of additional primary care services outside the VA system, enrollment in an endocrine clinic within the prior 6 months, hospitalization for a psychotic illness within the prior 3 months before enrollment, estimated short life expectancy, and cognitive impairment.

Intervention. Patients were randomized to group medical clinics or usual care. Group medical clinics included 6 to 8 patients and met every 2 months for a total of 7 sessions. Patients in the clinics received care and education from a general internist, pharmacist and a nurse or certified diabetes educator. Each session lasted approximately 90 minutes and included data gathering, educational sessions on topics related to the care of diabetics, and one-on-one care management sessions between each patient and either the general internist or the pharmacist.

Main outcome measures. The primary endpoints, measured by blinded research personnel, included the proportion of patients who achieved goal levels of HbA1c (< 7 %) or blood pressure (< 130/80 mm Hg). Secondary endpoints were change in HbA1c and systolic blood pressure levels from baseline to the study completion, self-reported medication adherence, health care utilization, and cost. Follow-up continued for a median of 12.8 months.

Main results. Mean age of participants in the group medical clinic versus usual care group was 63 and 61 years, respectively. Almost all patients were male, and a majority was African American (65% vs. 54%). Baseline systolic blood pressure and HbA1c level were 152.9 mm Hg (SD, 14.2) and 9.2% (SD, 1.4). The proportion of subjects with controlled blood pressure at study completion was 22% in the group medical clinic arm compared with 12% in the usual care arm (odds ratio, 2.0 [95% confidence interval, 1.0–4.2]). Mean systolic blood pressure improved more in the group medical clinic arm than in the usual care arm from baseline to study completion (13.7 mm Hg vs. 6.4 mm Hg; $P = 0.011$). Mean HbA1c improvements were similar in both groups (0.8% vs. 0.5%; $P = 0.159$). Medication adherence did not differ between groups, although subjects in the group medical clinic arm did report more perceived confidence with their treatment regimen. Emergency room visits were significantly lower in the group medical clinic arm; however, the absolute difference was only 0.4 fewer visits per year. The annual cost

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of the group medical clinic was projected to be $460 (range, $393–554).

Conclusion. Group medical clinics improved systolic blood pressure in diabetic patients more than usual care.

Commentary

Group medical clinics combine one-on-one counseling and care with group sessions that teach self-management skills for patients with chronic disease [1]. These clinics have been touted as a means of increasing the efficiency of care delivery and, perhaps, improving care by providing educational services to patients in groups rather than in one-on-one visits. Data supporting their use among a common target population—diabetics—is mixed [2–5]. Most studies have been small and have primarily found benefits in processes of care, such as increased screening, rather than clinical outcomes, such as improvements in HbA1c and blood pressure. Edelman et al add to this literature with this study of 239 poorly controlled diabetics with hypertension in 2 VA medical centers. They found that group medical clinics improved blood pressure control more than usual care, but they found no added improvement in HbA1c levels. The annual cost per patient for the group medical clinic was estimated to be $460, and ER visits were significantly but minimally lower in this group compared with usual care.

The study was well-conducted and, as would be expected, the analysis was done on an intent-to-treat basis. Investigators enrolled 39% of all potential subjects who were approached for participation, and 18 group medical clinics were formed. They gathered 93% of all expected data points, and 88% of participants completed the trial (78% total attendance rate for the group medical clinics). The study also provided an albeit somewhat cursory estimate of costs of the group medical clinics. They did not compare the costs of care between the group medical clinic and usual care arms, making it difficult to determine the cost-effectiveness of the intervention.

The study has several of the usual threats to generalizability that are common in studies that require extensive resources: small sample size, use of only 2 centers, and a lack of diversity of the patient mix—in this case, almost all male patients. The major limitation to the study is the difficulty in determining what aspect of the group medical clinic might have contributed to improvements in blood pressure control. The usual care group had no interventions, and care proceeded per the direction of the primary care physician. In the group medical clinic arm, subjects received 7 additional visits over the course of 1 year. At these visits, patients not only participated in the group educational sessions but also met one-on-one with either a pharmacist or a general internal medicine physician. This extra attention alone could have led to the improvements in blood pressure control. The study attempted to glean what factors might have contributed to these improvements. They found no difference in medication adherence at study completion; however, those in the group medical clinic arm did have more perceived competence with their treatment regiments. Authors should have provided other additional information to capture changes in treatment regimens that might have contributed to improved blood pressure, such as how many patients had their medication regimens altered. They also failed to provide explicit details about the type of care available to the usual care group, including access to pharmacists and diabetes educators and how often usual care subjects took advantage of those services.

Group medical clinics may be a useful innovation to primary care services and could be integrated into a patient-centered medical home, which may emerge as a dominant primary care model over the coming years. As this study shows, group medical clinics may improve care, at least in part, for patients with diabetes and hypertension. More studies should be conducted with intensive monitoring of costs and more varied comparison groups. For example, parsing the components of the group medical clinic that might be of value requires a study that includes a group medical clinic arm compared with both a usual care arm and an arm that includes some intensification of visits and attention to patients. This might further elucidate if the group model has cost and care benefits.

Applications for Clinical Practice

Hypertensive diabetic patients in a group medical clinic had greater improvement in blood pressure compared with usual care. These clinics might improve care and lower costs, but additional studies are required to determine how much promise they hold.

—Review by Jason P. Block, MD, MPH

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