Review: Care assisted by nurses or pharmacists provides better blood pressure control

Fahey T, Schroeder K, Ebrahim S. **Educational and organisational interventions used to improve the management of hypertension in primary care: a systematic review.** Br J Gen Pract. 2005;55:875-82.

Clinical impact ratings: GIM/FP/GP ★★★★★☆☆

QUESTION

In patients receiving treatment for hypertension, which organizational or educational strategies are effective for improving blood pressure (BP) control or clinical outcomes?

METHODS

Data sources: Cochrane Controlled Trials Register, MEDLINE, and EMBASE/Excerpta Medica (to August 2004); references of relevant studies; and experts in the field.

Study selection and assessment: Randomized controlled trials that compared interventions aimed at improving BP with no intervention or usual care in patients with treated or untreated essential hypertension and assessed mean systolic (SBP) or diastolic BP (DBP), control of BP, or proportion of patients followed up at clinic. Studies of interventions not intended to increase BP control by organizational or educational means (e.g., drug trials) were excluded. Quality assessment of individual studies included randomization procedure; allocation concealment; blinding of patients, care providers, and outcome assessors; and losses to follow-up.

Outcomes: Differences in SBP and DBP, BP control, and clinic attendance at follow-up.

MAIN RESULTS

56 RCTs met the selection criteria. Methodological quality of the trials was poor to moderate. The interventions studied were self-monitoring (15 RCTs), patient education (16 RCTs), health professional education (9 RCTs), care assisted by nurses or pharmacists (7 RCTs), organizational interventions (7 RCTs), and appointment reminders (6 RCTs). Heterogeneity precluded much pooled analysis. Physician-directed education resulted in a reduction in SBP, and self-monitoring was associated with a reduction in DBP (Table). Care assisted by nurses or pharmacists produced favorable results for SBP, DBP, and BP control (Table). Appointment reminder systems (6 RCTs) improved clinic follow-up (Table).

CONCLUSIONS

In patients being treated for hypertension, organizational or educational strategies for improving blood pressure control have varying effects. Care assisted by nurses or pharmacists shows improvement in the most blood pressure outcomes, but heterogeneity among studies prevents pooling of results.

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Interventions for controlling blood pressure in hypertension*

Interventions	Weighted mean difference (95% CI) or mean range		BP control (odds ratio [CI] or range)
	SBP (mm Hg)	DBP (mm Hg)	
Self-monitoring	−10 to 5	−2.0 (−2.7 to −1.4)	0.9 (0.8 to 1.1)
Education (patient)	−16 to 1	−9 to 7	0.7 (0.4 to 1.0)
Education (health professional)	−2.0 (−3.5 to −0.6)	−0.4 (−1.1 to 0.3)	0.8 to 1.0
Care assisted by nurses or pharmacists	−13 to 0	−8 to 0	0.1 to 0.9
Organizational interventions	−12 to 3	−8 to 5	0.5 to 1.8
	Clinic follow-up (relative risk range)		
Appointment reminders	0.1 to 1.4		

*SBP = systolic blood pressure; DBP = diastolic blood pressure. CI defined in Glossary.

COMMENTARY

Despite potentially dramatic benefits from effective modern drugs, hypertension treatment rates remain low and BP control rates even lower. Systems-based approaches are needed, and the systematic review by Fahey and colleagues presents data from randomized trials of educational and organizational efforts to improve hypertension care.

This review, similar to those in the Cochrane Collaboration Effective Practice and Organization of Care program, is carefully done, but clinicians seeking help in improving their practices may find themselves disappointed. Individual study definitions of BP control were used, potentially affecting the success rates reported (1). Pooling of results was hindered by heterogeneity. Details of the interventions are available on the *British Journal of General Practice* Web site. Overall benefits of interventions were small, although small changes could have a big effect where populations are concerned. Only 1 study had dramatic benefits, and it was published in 1979. Few trials dealt with enhancement of patient adherence, a strategy studied by the same authors in a separate review (2), and few used modern computer-assisted systems.

Clinicians may want to watch for the V-STITCH trial, which will test electronic decision support as well as telephonic patient education (3). They will also have to take a good look in the mirror, as physician inertia seems to be a major obstacle in our efforts to improve hypertension outcomes (4).

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