Pharmacists can significantly improve blood pressure, cholesterol in stroke patients

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Stroke patients managed by a pharmacist had a 12.5% improvement in blood pressure and low-density lipoprotein (LDL), or "bad" cholesterol levels compared with a control group, according to a clinical trial published in *CMAJ* (*Canadian Medical Association Journal*).

Patients who have a stroke or "mini stroke" (transient ischemic attack) are at high risk of adverse cardiovascular events. Management of high blood pressure and cholesterol after a stroke is important because it can substantially reduce the risk of a negative event; however, many patients receive suboptimal care.

Some evidence indicates designated "case managers" could better manage patients to reduce the risk.

Researchers undertook a randomized controlled trial to determine if a pharmacist case manager could improve blood pressure and cholesterol levels in people who had had strokes or mini strokes. The trial included 279 adult participants in Edmonton, Alberta, who either received care from a pharmacist or a nurse (control group) who managed the case over a 6-month period. About 60% of participants were 65 years of age or older and 58% were men.

Both nurses and pharmacists counselled participants on diet, smoking, exercise and other lifestyle factors; checked blood pressure and LDL levels and provided summaries to patients' physicians after each visit. In addition, pharmacists prescribed medications based on the current

Canadian guidelines and adjusted doses to achieve the best result for each patient.

At the start of the study, none of the participants had blood pressure or cholesterol levels that met targets recommended in the Canadian Stroke Guidelines. By 6 months, both groups had significant improvements, with a 30% improvement in the control group managed by nurses and a 43% improvement in patients managed by pharmacists.

"Calling our control arm "usual care" would be a misnomer, and patients in the active control group (nurse-led group) showed a 30% absolute improvement in risk factor control over a 6-month period," writes Dr. Finlay McAlister, Division of General Internal Medicine, and the Epidemiology Coordinating and Research (EPICORE) Centre, University of Alberta, with coauthors. "The 43% absolute improvement at 6 months seen in our pharmacist case manager group was achieved despite the fact that over three-quarters of patients were already taking an antihypertensive or lipid-lowering medication at baseline."

The pharmacists did not receive additional training, but all were at similar stages of their careers and received the same patient educational materials and treatment guidelines.

Although patients in both groups had similar reductions in blood pressure, patients in the pharmacist-led group had greater improvements in LDL cholesterol targets (51%) compared with 34% in the nurse-led group. The researchers point out that the pharmacist case managers actively adjusted medication to achieve desired results (medication titration) and suggest this contributed to the beneficial effect. Several other studies involving case managers who did not have prescribing authority found minimal benefit.

"We believe that both approaches hold great promise, not only for

patients with stroke or transient ischemic attack but also for all patients with, or at high risk of, vascular disease, and our study provides much-needed information on their comparative effectiveness," the authors conclude.

More information: www.cmaj.ca/lookup/doi/10.1503/cmaj.140053

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