

Home blood pressure monitoring plus Web-based pharmacy care helps improve blood pressure control

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Patients with hypertension who monitored their blood pressure from home and received Web-based pharmacist care showed greater improvement in blood pressure control than patients who received usual care, according to a study in the June 25 issue of *JAMA*.

Hypertension (high blood pressure) is one of the leading causes of death worldwide. Almost 1 in 3 U.S. adults has hypertension, defined as a sustained systolic and diastolic blood pressure (BP) of 140 and 90 mm Hg or higher, respectively. Lowering BP with antihypertensive medications decreases the risk of death and major disability from cardiovascular and kidney disease, but hypertension remains inadequately treated in the majority of affected individuals, according to background information in the article.

Electronic medical records (EMRs) and secure patient Web sites increasingly allow patients to view portions of their medical records, access health care services and communicate with their health care team online. However, little is known about the effectiveness of Web services in the care of chronic conditions.

Beverly B. Green, M.D., M.P.H., of the Group Health Center for Health Studies, Seattle, and colleagues tested whether hypertension care could be successfully provided remotely over the Web without in-person clinic visits. The trial included 778 participants age 25 to 75 years who had

uncontrolled hypertension and who also had Internet access. Care was delivered over a secure patient Web site from June 2005 to December 2007. The Web site included online services such as patients being able to send email to their physician, refilling prescriptions, requesting appointments, getting test results and looking up health information.

Participants were randomly assigned to usual care, home BP monitoring and secure patient Web site training only, or home BP monitoring and secure patient Web site training plus care management by a pharmacist delivered through Web communications. Of 778 patients, 730 (94 percent) completed the 1-year follow-up visit.

The researchers found that compared with patients receiving usual care, the BP control of the home BP monitoring and Web training only group had a nonsignificant increase in the percentage of patients with controlled BP (defined as systolic BP less than 140 mm Hg and diastolic BP less than 90 mm Hg). The addition of Web-based pharmacist care to home BP monitoring and Web training resulted in 25 percent more patients with controlled BP (56 percent) compared with those receiving usual care (31 percent) and 20 percent more patients with controlled BP compared with the home BP monitoring and Web training only group (36 percent).

Compared with usual care, greater reductions in systolic BP occurred in the group receiving home BP monitoring and Web training plus pharmacist care and in the group receiving home BP monitoring and Web training only. The group receiving home BP monitoring and Web training plus pharmacist care also had a significant decrease in diastolic BP compared with the group receiving usual care. For the group with baseline systolic BP of 160 mm Hg or higher, the group receiving home BP monitoring and Web training plus pharmacist care had 3.3 times more patients with BP in control, compared with usual care.

"We believe the pharmacists were successful because they provided planned care to a defined population, consistently applied stepped medication protocols, and used comprehensive information systems, a patient-shared EMR, and Web communications to collaborate with patients and their physicians," the authors write. "Our findings demonstrate the effectiveness of using home BP monitoring combined with pharmacy care over the Web to improve BP control for patients with essential hypertension. More studies are needed to determine whether similar care can be applied to other chronic diseases, be implemented in other settings, and decrease costs."

Source: JAMA and Archives Journals

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