Computer-based phone calls raise awareness, control of blood pressure

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A simple, automated feedback system made hypertension patients more aware of their potentially fatal or disabling disease and helped them significantly lower their high blood pressure, according to a report published in *Circulation: Cardiovascular Quality and Outcomes*.

In a one-year study, the computer-based system telephoned participants at least once a week and a voice-recognition program asked for the most recent blood pressure reading they had recorded at home. The information was automatically relayed to patients' physicians and pharmacists, who could intervene if a reading indicated problems.

"This system worked as efficaciously as if we had added a new medication on top of the patients' other medications," said Pavel Hamet, M.D., Ph.D., senior author of the study and professor of medicine, physiology and nutrition at the University of Montreal in Canada.

Among researchers' key findings:

- At the trial's end, 24-hour monitoring showed an average reduction of 11.9 millimeters of mercury (mm Hg) in systolic blood pressure and 6.6 mm Hg in diastolic pressure for the intervention group versus reductions of 7.1 mm Hg systolic and 4.5 mm Hg diastolic for the control patients. "That was just part of the gold-standard verification that the system worked," Hamet said.

- Blood pressure readings measured in physicians' offices averaged reductions of 18.7 mm Hg for systolic and 9.1 mm Hg for diastolic among intervention patients compared to reductions of 13.8 mm Hg and 5.6 mm Hg for the control group.

- More intervention patients met the U.S. and Canadian definition for controlled blood pressure (less than 140/90 mm Hg), 46 percent versus 28.6 percent of the controls.

- Physicians treating the intervention group were more likely to add drugs or increase medication dosage. At the study's end, intervention patients were taking an average of two classes of antihypertensive drugs compared to one for the control group.

The researchers recruited 223 hypertension patients through 21 physicians at eight primary care clinics in Laval, Quebec, near Montreal. All patients had 24-hour blood pressure recordings made with portable monitors they wore. Then, 111 were assigned to the intervention group and 112 to the control group.

Intervention patients received an educational booklet, a digital home blood pressure monitor, a log book and access to the telephone-linked management system. Control patients received the booklet and their usual medical care.

Hamet attributes the study's success to the regular feedback that the intervention patients received. "Something was telling them how well they were doing," he said. "For example, the system alerted pharmacists when patients had not picked up their prescription refills on time."

The team did not design the study to determine if one group suffered fewer strokes or other hypertension-related complications. However, 14

(12.6 percent) of the intervention participants and eight (7.1 percent) of the controls were hospitalized during the study, both nonsignificant differences.

"The automated blood-pressure control system could be widely accepted if it's cost-effective. The healthcare system doesn't want to increase the cost without some benefit," Hamet said.

The research team is designing a health economics study to better assess the cost of the program. Additional medications, the automated system and home monitors add costs, "but if you can prevent stroke or kidney damage, which are very costly complications of hypertension, it should be economically sound," Hamet said.

Source: American Heart Association (news : web)