SCIENCE-IN-BRIEF

TURNING SCIENCE INTO ACTION

Home Blood Pressure Monitoring: How Good a Predictor of Long-Term Risk?

The following is a synopsis of "Home Blood Pressure Monitoring: How Good a Predictor of Long-Term Risk?" published in the June 2011 issue of *Current Hypertension Reports*.

What is already known on this topic?

One in three Americans is at risk for high blood pressure, a primary risk factor for cardiovascular disease. Despite widespread understanding of the importance of high blood pressure control, diagnosis and treatment can be difficult. Although traditionally blood pressure has been monitored in the clinical setting by medical professionals, growing evidence suggests these measurements may be inaccurate as a result of "white coat syndrome" and masked hypertension. Another option considered the gold standard for blood pressure monitoring, 24-hour ambulatory monitoring, is cumbersome and expensive. A third option, home blood pressure monitoring (HBPM), differs from both clinic-based and ambulatory monitoring by allowing patients to monitor their blood pressure at successive increments outside the clinical setting.

What is added by this document?

This article reviews the existing evidence supporting HBPM's usefulness as a diagnostic tool. Most studies that evaluate the use of HBPM demonstrate that this method is as good or better at predicting cardiovascular events, progression of chronic kidney disease, decreased physical and/or mental ability in older adults, and all-cause mortality than clinical blood pressure measurement. These findings apply across disparate populations, varying methods of blood pressure measurement, and different methods of statistical analysis. The authors hypothesize that HBPM more closely reflects a patient's true blood pressure because it allows for a greater number of measures and decreases variation between readings. This hypothesis is especially true for patients with chronic kidney disease because blood pressure increases slowly and continuously following dialysis, and consistent blood pressure measures at regular intervals may allow for better accuracy.

What are the implications for public health practice?

HBPM provides an opportunity to improve monitoring by lowering cost and increasing ease of implementation. Also, HBPM may be particularly important among smokers because smoking typically is not allowed in medical facilities, so any smoking-induced rise in blood pressure may not be detected in a clinical setting.

What are the applications for these findings?

Because HBPM offers improved measurement combined with low cost and simple execution, patients with known or suspected high blood pressure should monitor their blood pressure using a validated oscillometric home monitoring device as part of their treatment plan.

Resources

New York City Department of Health and Mental Hygiene
Patient Self-Monitoring of Blood Pressure: A Provider's Guide
www.nyc.gov/html/doh/downloads/pdf/csi/hyperkit-hcp-bpselfmon-guide.pdf

My Action Plan HBPM Tracking Card
www.nyc.gov/html/doh/downloads/pdf/csi/hyperkit-pt-bptrack-passport.pdf

American Heart Association
Guide to Home Blood Pressure Monitoring
www.heart.org/HEARTORG/Conditions/HighBloodPressure/SymptomsDiagnosisMonitoringofHighBloodPressure/Home-Blood-Pressure-Monitoring_UCM_301874_Article.jsp

Citation

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