Is There No Place Like Home for Blood Pressure Monitoring?

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It must strike everyone that occasional, separated office blood pressure measurements are not the best way to monitor persons with hypertension. So, what might be a better way to keep an eye on such a deadly disease?

Would the incorporation of home blood pressure monitoring be a step forward? If home monitoring is added, there would be more blood pressures available for review and no confounding readings because of the white coat effect. Recent data demonstrate that the question of home monitoring has been asked and answered in an interesting way.¹

The study began with 5008 persons randomly recruited from the International Database of Home Blood Pressure in Relation to Cardiovascular Outcome Study. Not all of them were hypertensive or receiving antihypertensive medications (blood pressure categories follow). Talk about diversity, 1605 members of the cohort were Finns; 568 were from Greece; 2479 were from Japan; and 356 were from Montevideo, Uruguay (56.6% were women, 42.2% were age 60 years or older, 22.9% smoked, and 6.3% had diabetes mellitus).

Blood pressure measurements were obtained in 2 distinct ways in all subjects for comparisons: (1) office blood pressures were taken twice at the same visit and averaged, and (2) blood pressures were measured at home with a validated device. Blood pressure values were classified as optimal (< 120/80 mm/hg), normal (120 - 129/80 - 84 mm/hg), high normal (130 - 139/85 - 89 mm/hg), mild hypertension (140 - 159/90 - 99 mm/hg), and severe hypertension (> 160/> 100 mm/hg). Median follow-up was 8.3 years.

In the context of the 2 venues for measurement, home and office, the authors discussed a clinical situation that we do not mention enough, so-called masked hypertension. That entity is essentially the opposite of “white coat hypertension.” It is a normal office blood pressure but an elevated home blood pressure.

During the follow-up period, 522 participants died and 414, 225, and 194 had cardiovascular, cardiac, and cerebrovascular events, respectively. For persons in the “normal-optimal-high normal” blood pressure groups, 5.0%, 18.4%, and 30.3%, respectively, had masked hypertension. Compared with true optimal folks in the office measured cohort, masked hypertensives (identified only when home monitoring values are compared with office readings) had a 2.3-fold higher cardiovascular risk. What do the data tell us about home recordings of blood pressure? Home recordings may represent a helpful adjunct in predicting cardiovascular risk, especially in persons with milder degrees of hypertension. The data also tell us that masked hypertension is a real entity that, when present, predicts bad outcomes in hypertensives.

In the more severe hypertensive category, the same benefit was not realized. That slight drawback aside, the costs of home monitoring are small and the benefits after additional studies may be big. The Japanese have estimated costs (data are in the paper being discussed) and demonstrated cost savings with home monitoring compared with office measurements.

This nice study will most likely be followed by more comparison studies of the 2 methods for measuring blood pressure.

Also keep an eye out for patients with masked hypertension. They may be in jeopardy.

References:
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