Use of automated office blood pressure measurement to reduce the white coat response

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Abstract

Objective: To examine the possibility of reducing the white coat response using an automated sphygmomanometer designed for office use, the BpTRU. Consecutive patients referred from physicians in the community to an ambulatory blood pressure (ABP) monitoring unit in an academic hospital were included in the study.

Participants and methods: A total of 309 patients referred for diagnosis or management of hypertension were studied. Differences between mean awake ABP and BP readings taken by the patient's own physician using a manual sphygmomanometer or the automated BpTRU device with the patient resting alone in the ABP monitoring unit were compared.

Results: BP recorded in the examining room using an automated device (132 ± 19/75 ± 12) was similar to the mean awake ABP (134 ± 12/77 ± 10) with both values being lower ($P < 0.001$) than the BP recorded on a routine visit to the patient's own family physician (152 ± 18/87 ± 11). The coefficient of correlation between the systolic/diastolic ABP and the automated office BP ($r = 0.62/0.72$) was higher ($P < 0.001$) than with the family physician's manual BP ($r = 0.32/0.48$). The prevalence of white coat hypertension in untreated patients ($n = 146$) was significantly ($P < 0.001$) lower with automated office BP (16%) compared with the routine family physician BP (55%).

Conclusion: The white coat response associated with office BP measurements can be virtually eliminated by recording BP with the automated BpTRU device with patients resting alone in a quiet examining room.

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