

How many days to confirm hypertension using Home Blood Pressure Monitoring

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Objective and Méthods

To confirm the diagnosis of hypertension with a probability of 99% according to the blood pressure obtained by Home Blood Pressure Monitoring (HBPM) at home after one or two days. In 3910 subjects followed in a specialist hospital department, 72% of whom were treated with at least one antihypertensive drug, HBPM was performed with 18 measurements over 3 days (3 measurements in the morning and evening). The mean of the 18 measurements was used as the reference value to define "hypertension" status with the thresholds SBP \geq 135 or DBP \geq 85. Univariate statistical analysis determined the mean SBP/DBP value obtained after day 1 and day 2 to affirm or deny the diagnosis of hypertension at the 99% threshold.

The population, aged 60 \pm 13 years, had a mean SBP/DBP of 134 \pm 14/81 \pm 10 mmHg. With the average of the 3 days of self-measurement to define blood pressure status, the diagnosis of hypertension or normotension was obtained for 44% of the population after the first day and for 73% after the second day.

The values of mean SBP and/or DBP that allowed the diagnosis to be confirmed after 1 or 2 days of self-measurement with the probability of 99% are given in the table:

Results

Diagnosis with 99% probability	After 1 day HBPM	After 2 days HBPM
Hypertension if SBP/DBP \geq	149/95	142/90
Normotension if SBP/DBP \leq	123/76	129/81

Conclusions

It is possible to shorten the HBPM protocol to 1 day in 42% of patients followed for hypertension while maintaining a very high probability of diagnosis of blood pressure status. To allow patients to follow a HBPM protocol adapted to their blood pressure level Applications dedicated to self-measurement should use these results.