

The Association of Nocturia with Home and Office Blood Pressures

Although widely viewed as a urological disorder, there is a growing recognition that nocturia is associated with other disorders such as hypertension and blood pressure (BP) elevation. Multiple studies using office BP values have confirmed this association. While home BP monitoring has been found superior to office values in predicting cardiovascular events, the association between nocturia and home BP values has not been well studied. The objective of this study was to compare the relationship between nocturia and BP values obtained at the office visit and BPs taken by patients at home.

We studied 97 home BP logs, office visit BPs and simultaneous nocturia frequencies obtained from 59 patients (70% female; 98% African American). Mean home BPs, BP load (% above 130/80), home BP variability (coefficient of variation) and the home arterial stiffness index were calculated from home BP logs.

Nocturia frequency correlated with age ($r = .29$, $p = .02$), and was similarly correlated with office ($r = .45$, $p < .001$) and home systolic BPs ($r = .44$, $p < .001$), but not with office or home diastolic pressures ($p = ns$). Nocturia frequency also correlated with BP load ($r = .40$, $p < .001$), but not home BP variability or stiffness index ($p = ns$). On multivariate analysis with age, systolic office and home BP and BP load, office systolic BP was the independent predictor (Std B = .31, $p = .02$) ($p = .01$ for the model).

These results suggest nocturia is associated with home and office systolic BPs and BP load with office systolic BP the strongest predictor of nocturia frequency.