Stress, Salt Excretion, and Nighttime Blood Pressure
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Statistical analyses

Participant characteristics for the analytic sample were summarized as mean and standard deviation (SD) for continuous variables and percentages for categorical variables. As a fidelity check of the mental stress tasks, we examined the pre-/post- change in VAS stress rating in the laboratory session.

To determine the association between urinary sodium excretion rate with stress in the laboratory and awake-to-asleep ratio of urinary sodium excretion over a 24-hour period, standard regression analysis as used in unadjusted and adjusted models. We have *a priori* selected the following covariates for adjustment in a multiple regression model: age, sex, race, and ethnicity (non-Hispanic whites, non-Hispanic blacks, Hispanics, and other), and body mass index. Age, sex, and race/ethnicity are standard covariates in studies of hypertension given their well-known associations with BP. Body mass index was included as a covariate since it is associated with both lower stress-induced sodium excretion and lower daytime-to-nighttime ratio of urinary sodium excretion rate. Prior data has indicated that higher clinic SBP, higher clinic DBP and parental history of hypertension are associated with lower stress-induced sodium excretion. Further, blood glucose and 24-hour creatinine clearance are associated with lower daytime-to-nighttime ratio of urinary sodium excretion rate. Each of these were evaluated as candidate covariates by selecting those that are associated with awake-to-sleep ratio of urinary sodium excretion rate at $p<0.10$.

To determine the association between awake-to-asleep ratio of urinary sodium excretion and SBP dipping over a 24-hour period, standard regression analysis was also used in unadjusted and

adjusted models. The *a priori* covariates that were included in adjusted models are age, sex, race, ethnicity, body mass index, current smoking, alcohol use (none, moderate, heavy), blood glucose, 24-hour sodium excretion, 24-hour potassium excretion, 24-hour creatinine clearance, and FENa. In addition to age, sex, and race/ethnicity, the other measures were chosen as covariates as prior studies indicate they may confound the association between the diurnal pattern of sodium excretion and the diurnal pattern of BP. These analyses were repeated by replacing SBP dipping with DBP dipping.

In secondary analyses, we also examined whether the association between urinary sodium excretion rate with stress in the laboratory and awake-to-asleep ratio of urinary sodium excretion over a 24-hour period was modified by EMA ratings of perceived stress. Controlling for each EMA rating and change in urinary sodium excretion rate with stress, we tested their multiplicative interaction term in a fully adjusted model. A positive interaction effect would suggest that the association between urinary sodium excretion rate with stress in the laboratory and awake-to-asleep ratio of urinary sodium excretion over a 24-hour period is stronger among those who experience higher stress during the awake period of monitoring. The analyses were repeated for each EMA rating of negative affect.

A p value of <0.05 was considered statistically significant.