

Supplementary Materials

Supplementary Table 1. Correlation analysis of blood pressure parameters with demographics and PSG-derived parameters (N=232)

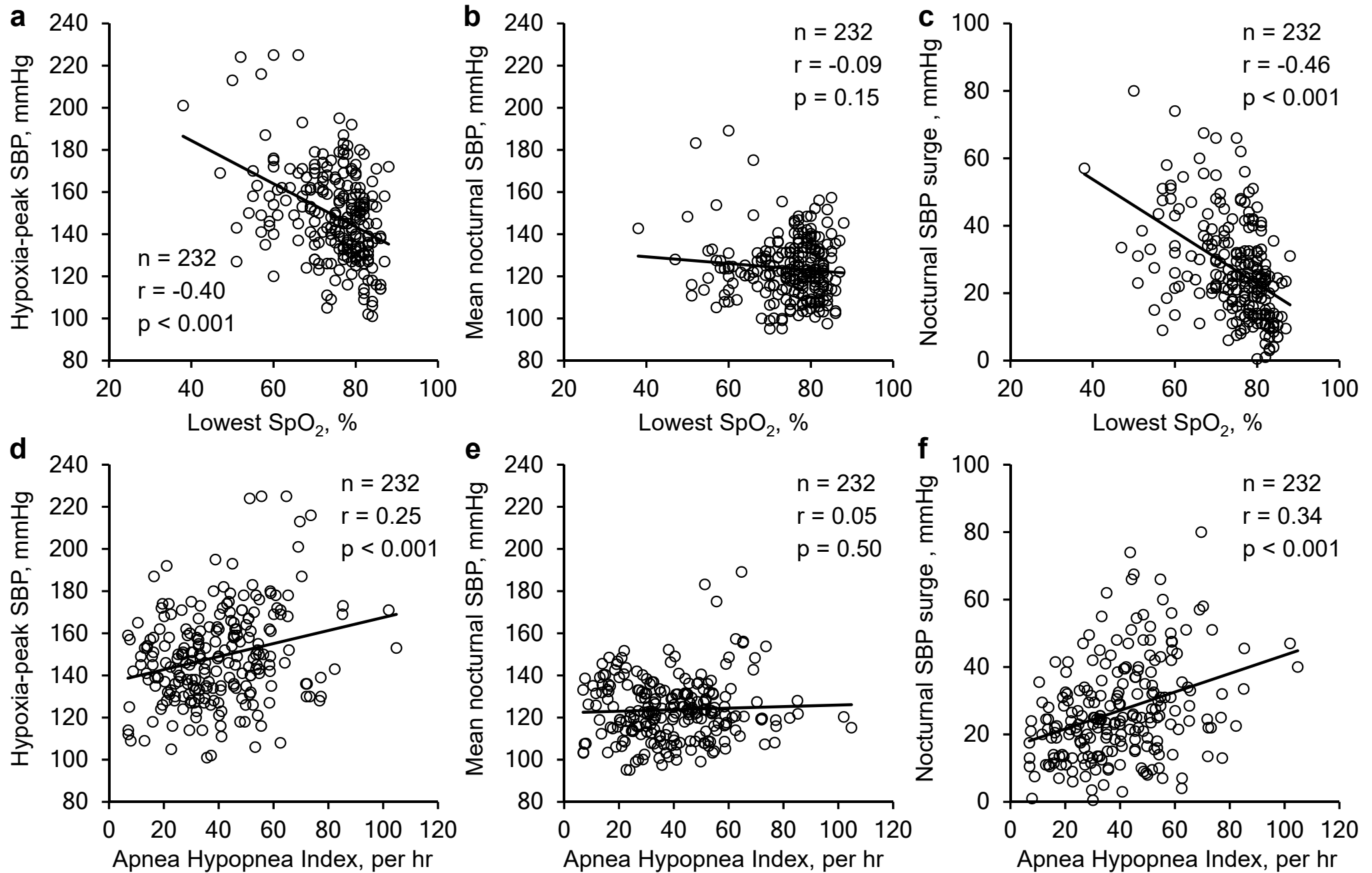
	Hypoxia-peak SBP		Mean nocturnal SBP		Minimum nocturnal SBP		Morning SBP		Evening SBP	
	r	P	r	P	r	P	r	P	r	P
Age, y	-0.15	0.03	-0.06	0.33	0.02	0.78	0.02	0.81	-0.16	0.02
Sex (0:W, 1:M)	0.01	0.94	0.08	0.23	0.06	0.37	0.13	0.05	0.05	0.48
BMI, kg/m ²	0.26	<0.001	0.12	0.07	-0.15	0.03	0.13	0.05	0.33	<0.001
Apnea Hypopnea Index, per hr	0.25	<0.001	0.05	0.50	-0.03	0.67	0.02	0.77	0.07	0.28
Apnea Index, per hr	0.15	<0.01	-0.04	0.54	-0.10	0.14	-0.02	0.75	0.02	0.78
Arousal Index, per hr	0.09	0.17	-0.05	0.47	-0.05	0.44	-0.01	0.92	-0.05	0.49
Lowest SpO ₂ , %	-0.40	<0.001	-0.09	0.15	0.16	0.02	-0.06	0.37	-0.13	0.05
SpO ₂ < 90%, %	0.36	<0.001	0.15	0.02	-0.11	0.09	-0.11	0.08	0.24	<0.001

The individual values for each night (116 patients x 2 nights) were used in the analysis. Pearson's correlation analysis was used for all variables except sex. PSG, polysomnography; BMI, body mass index; SBP, systolic blood pressure; SpO₂, oxygen saturation.

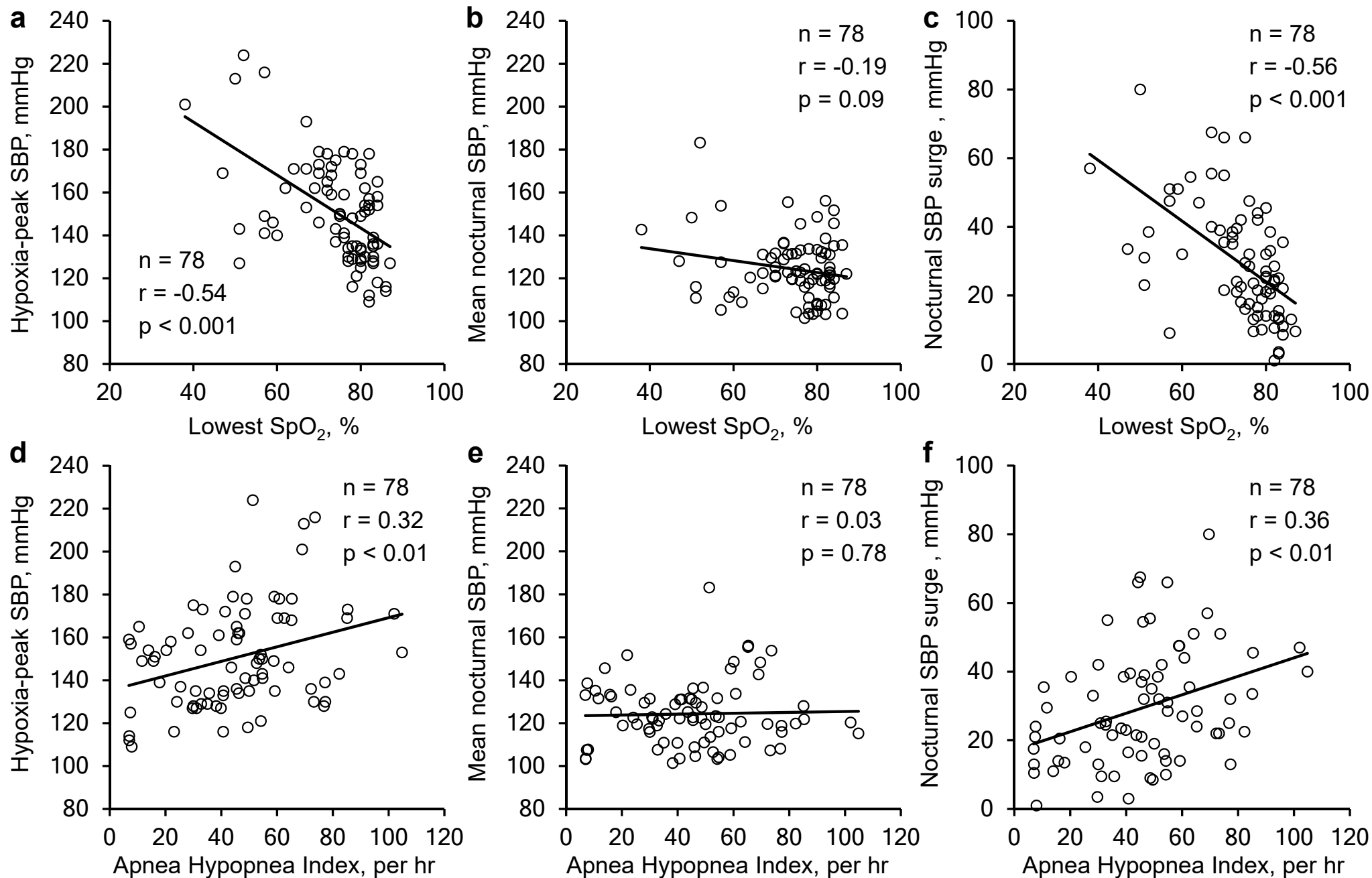
Supplementary Table 2. Correlation analysis of nocturnal blood pressure variability with demographics and PSG-derived parameters (N=232)

	Nocturnal SBP surge by oxygen-triggered measurement		SD of nocturnal SBP by fixed-interval measurement	
	r	P	r	P
Age, y	-0.21	<0.01	0.09	0.17
Sex (0:W, 1:M)	0.05	0.45	-0.02	0.72
BMI, kg/m ²	0.26	<0.001	0.21	<0.01
Apnea Hypopnea Index, per hr	0.34	<0.001	0.06	0.34
Apnea Index, per hr	0.32	<0.001	0.07	0.27
Arousal Index, per hr	0.19	<0.01	-0.04	0.58
Lowest SpO ₂ , %	-0.46	<0.001	-0.26	<0.01
SpO ₂ < 90%, %	0.36	<0.01	0.23	<0.01

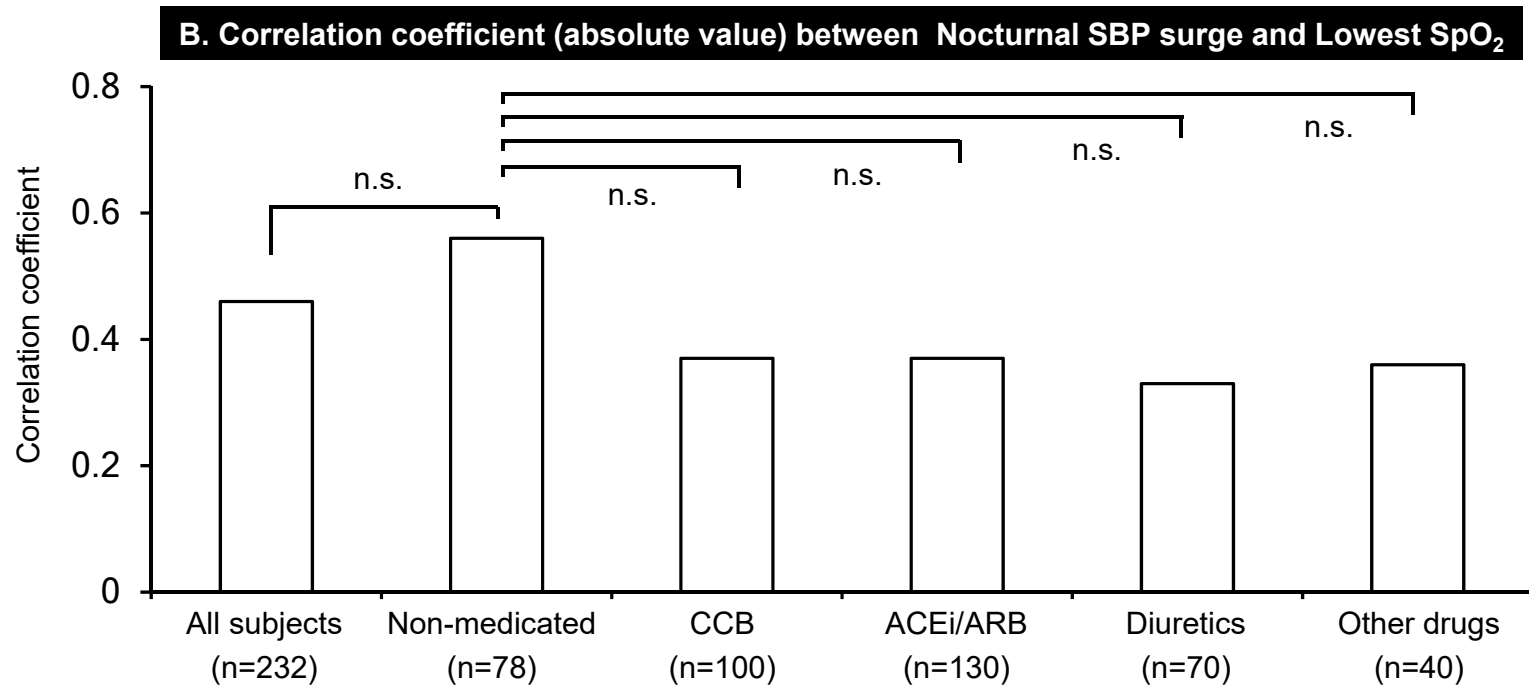
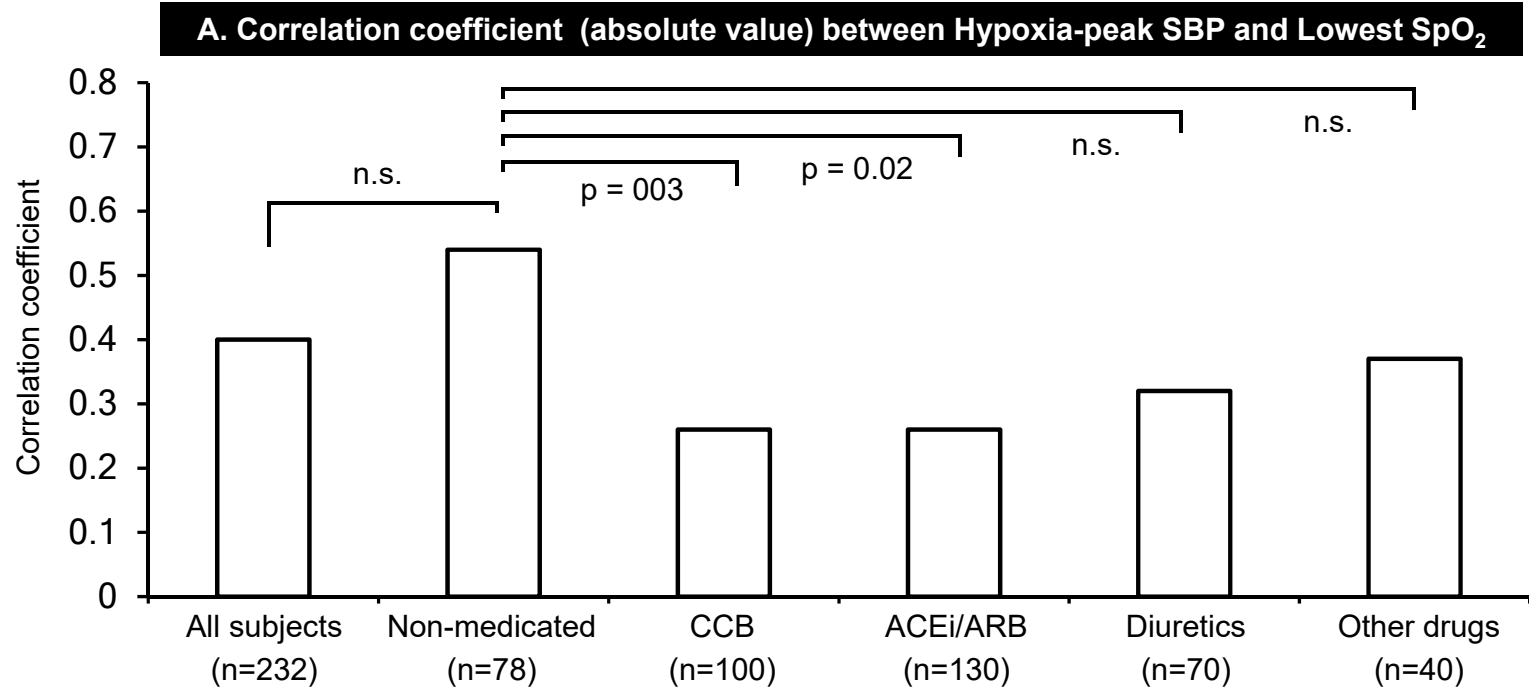
Individual values for each night (116 patients x 2 nights) were used in the analysis. Pearson's correlation analysis was used for all variables except sex. PSG, polysomnography; BMI, body mass index; SBP, systolic blood pressure; SpO₂, oxygen saturation; SD, standard deviation.



Supplementary Figure 1. Scatter plots of the linear relationships between the lowest SpO₂ value and each of hypoxia-peak SBP (a), mean nocturnal SBP (b) and nocturnal SBP surge (c) and those between the apnea hypopnea index and each of hypoxia-peak SBP (d), mean nocturnal SBP (e) and nocturnal SBP surge (f). The individual values for each night (116 patients x 2 nights) were used in the Pearson's correlation analysis. SBP, systolic blood pressure; SpO₂, oxygen saturation.



Supplementary Figure 2. Scatter plots of the linear relationships between the lowest SpO₂ value and each of hypoxia-peak SBP (a), mean nocturnal SBP (b) and nocturnal SBP surge (c) and those between apnea hypopnea index and each of hypoxia-peak SBP (d), mean nocturnal SBP (e) and nocturnal SBP surge (f). The individual values for each night (39 non-medicated hypertensive patients x 2 nights) were used in the analysis. Pearson's correlation analysis was used. SBP, systolic blood pressure; SpO₂, oxygen saturation.



Supplementary Figure 3. Correlation coefficient (absolute value) between (A) hypoxia-peak SBP and lowest SpO₂ and (B) nocturnal SBP surge and lowest SpO₂ in subgroups of patients receiving different classes of hypertensive medication. SBP, systolic blood pressure; CCB, calcium-channel blockers; ACEi, angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; SpO₂, oxygen saturation.