



**Supplementary Figure S1.** Mean and 95% confidence intervals of SBP (A1–A3) and DBP (B1–B3) along with changes in serum Ln-cortisol, Ln-deoxycortisol, and Ln-cortisone from restricted cubic splines analysis, adjusted for age, sex, education, marital status, per capita monthly income, drinking and smoking status, BMI, and physical activity. SBP: systolic blood pressure; DBP: diastolic blood pressure. Ln-, natural log-transformed.

**Supplementary Table S1.** Association between serum Ln-glucocorticoids and dysglycemia with hypertension, stratified by baseline characteristics

Item	Serum Ln-cortisol				Serum Ln-deoxycortisol				Serum Ln-cortisone			
	OR	lower CI	upper CI	P	OR	lower CI	upper CI	P	OR	lower CI	upper CI	P
Sex												
Male	0.980	0.877	1.095	0.717	1.301	0.985	1.719	0.064	0.885	0.691	1.134	0.335
Female	1.007	0.933	1.086	0.857	1.335	1.121	1.591	0.001	1.061	0.901	1.249	0.481
Physical activity												
Low	1.070	0.942	1.214	0.299	1.537	1.162	2.034	0.003	0.859	0.668	1.106	0.239
Moderate	1.015	0.922	1.117	0.761	1.311	1.062	1.619	0.012	1.126	0.913	1.390	0.268
High	0.923	0.825	1.033	0.162	1.125	0.810	1.563	0.483	1.013	0.763	1.345	0.930
Age (years)												
< 60	1.051	0.943	1.173	0.368	1.374	1.080	1.748	0.010	1.073	0.864	1.332	0.523
≥ 60	0.996	0.893	1.045	0.387	1.302	1.078	1.573	0.006	0.960	0.799	1.154	0.960
BMI (kg/cm <sup>2</sup> )												
< 24	1.040	0.925	1.169	0.512	1.370	1.066	1.761	0.014	1.047	0.822	1.334	0.708
≥ 24	0.980	0.909	1.057	0.603	1.295	1.078	1.554	0.006	0.995	0.842	1.177	0.956
Married/cohabiting												
Yes	0.991	0.927	1.059	0.783	1.295	1.108	1.514	0.001	0.989	0.857	1.141	0.877
No	1.029	0.843	1.255	0.781	1.726	1.066	2.795	0.026	1.204	0.733	1.977	0.464

**Note.** OR: odds ratio; CI: confidence interval; BMI: body mass index. Ln-, natural log-transformed.

**Supplementary Table S2.** Association between serum Ln-glucocorticoids and dysglycemia with hypertension, excluding the population with controlled hypertension

Item	OR (95% CI)	P value
Serum Ln-cortisol		
Tertile 1	1	
Tertile 2	1.239 (0.909, 1.689)	0.175
Tertile 3	1.682 (1.242, 2.277)	0.001
$P_{\text{trand}}$	0.001	
Serum Ln-deoxycortisol		
Tertile 1	1	
Tertile 2	1.239 (0.909, 1.689)	0.173
Tertile 3	1.682 (1.242, 2.277)	0.001
$P_{\text{trand}}$	0.001	
Serum Ln-cortisone		
Tertile 1	1	
Tertile 2	1.007 (0.745, 1.362)	0.964
Tertile 3	1.082 (0.802, 1.460)	0.604
$P_{\text{trand}}$	0.602	

**Note.** The model was adjusted by age, sex, education, marital status, per capita monthly income, drinking and smoking status, BMI, and physical activity. OR: odds ratio; CI: confidence interval; Ln-: natural log-transformed.

**Supplementary Table S3.** Association of Ln-glucocorticoids with Ln-blood pressure

Item	Linear regression $\beta$ coefficients			
	Unadjusted	Model 1	Model 2	Model 3
Ln-SBP				
Ln-cortisol				
Continuous	0.002 (-0.003, 0.006)	0.002 (-0.002, 0.006)	0.002 (-0.002, 0.006)	0.001 (-0.002, 0.005)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.013 (-0.006, 0.031)	0.009 (-0.009, 0.027)	0.009 (-0.008, 0.027)	0.013 (-0.004, 0.030)
Tertile 3	0.032 (0.014, 0.050)	0.030 (0.012, 0.047)	0.028 (0.011, 0.046)	0.033 (0.016, 0.050)
Ln-deoxycortisol				
Continuous	0.026 (0.016, 0.036)	0.025 (0.015, 0.034)	0.024 (0.015, 0.034)	0.022 (0.013, 0.031)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.017 (-0.001, 0.034)	0.015 (-0.002, 0.032)	0.015 (-0.002, 0.032)	0.009 (-0.007, 0.026)
Tertile 3	0.046 (0.028, 0.064)	0.043 (0.025, 0.061)	0.042 (0.025, 0.060)	0.038 (0.021, 0.055)
Ln-cortisone				
Continuous	-0.001 (-0.011, 0.008)	-0.001 (-0.010, 0.008)	-0.001 (-0.010, 0.008)	-0.002 (-0.011, 0.006)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.003 (-0.015, 0.022)	0.008 (-0.010, 0.026)	0.007 (-0.010, 0.025)	0.013 (-0.004, 0.030)
Tertile 3	0.004 (-0.015, 0.022)	0.006 (-0.012, 0.024)	0.006 (-0.012, 0.024)	0.033 (0.016, 0.050)

Continued

Item	Linear regression $\beta$ coefficients			
	Unadjusted	Model 1	Model 2	Model 3
Ln-SDP				
Ln-cortisol				
Continuous	0.001 (-0.003, 0.005)	0.001 (-0.00, 0.005)	0.001 (-0.003, 0.005)	< 0.001 (-0.003, 0.004)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.001 (-0.017, 0.019)	0.004 (-0.014, 0.022)	0.004 (-0.015, 0.022)	0.008 (-0.008, 0.025)
Tertile 3	0.022 (0.004, 0.041)	0.024 (0.005, 0.042)	0.022 (0.003, 0.040)	0.028 (0.011, 0.044)
Ln-deoxycortisol				
Continuous	0.022 (0.012, 0.032)	0.024 (0.014, 0.033)	0.023 (0.013, 0.033)	0.020 (0.011, 0.029)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.012 (-0.006, 0.030)	0.015 (-0.003, 0.033)	0.015 (-0.003, 0.033)	0.008 (-0.008, 0.025)
Tertile 3	0.040 (0.022, 0.059)	0.042 (0.024, 0.060)	0.041 (0.023, 0.059)	0.036 (0.019, 0.052)
Ln-cortisone				
Continuous	0.002 (-0.007, 0.012)	0.002 (-0.007, 0.012)	0.002 (-0.008, 0.011)	-0.001 (-0.009, 0.008)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.010 (-0.008, 0.029)	0.010 (-0.009, 0.028)	0.008 (-0.010, 0.026)	0.003 (-0.013, 0.020)
Tertile 3	0.017 (-0.001, 0.035)	0.017 (-0.002, 0.035)	0.016 (-0.002, 0.034)	0.009 (-0.007, 0.026)
Ln-PP				
Ln-cortisol				
Continuous	0.002 (-0.005, 0.010)	0.033 (-0.004, 0.010)	0.003 (-0.004, 0.010)	0.003 (-0.004, 0.010)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.030 (-0.002, 0.061)	0.017 (-0.012, 0.045)	0.017 (-0.011, 0.046)	0.019 (-0.009, 0.047)
Tertile 3	0.046 (0.015, 0.078)	0.038 (0.010, 0.066)	0.039 (0.010, 0.067)	0.042 (0.014, 0.070)
Ln-deoxycortisol				
Continuous	0.033 (0.016, 0.050)	0.027 (0.012, 0.042)	0.027 (0.012, 0.042)	0.026 (0.011, 0.041)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.024 (-0.007, 0.054)	0.014 (-0.014, 0.041)	0.014 (-0.014, 0.041)	0.010 (-0.018, 0.037)
Tertile 3	0.056 (0.025, 0.088)	0.045 (0.017, 0.074)	0.045 (0.017, 0.073)	0.043 (0.015, 0.071)
Ln-cortisone				
Continuous	-0.006 (-0.023, 0.010)	-0.006 (-0.021, 0.008)	-0.005 (-0.020, 0.009)	-0.005 (-0.020, 0.009)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	-0.007 (-0.039, 0.024)	0.005 (-0.023, 0.034)	0.006 (-0.022, 0.034)	0.004 (-0.024, 0.032)
Tertile 3	-0.018 (-0.049, 0.014)	-0.011 (-0.039, 0.017)	-0.009 (-0.038, 0.019)	-0.012 (-0.040, 0.017)

Continued

Item	Linear regression $\beta$ coefficients			
	Unadjusted	Model 1	Model 2	Model 3
Ln-MAP				
Ln-cortisol				
Continuous	0.001 (-0.003, 0.005)	0.001 (-0.003, 0.005)	0.001 (-0.003, 0.005)	0.001 (-0.003, 0.005)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.007 (-0.011, 0.024)	0.006 (-0.011, 0.024)	0.006 (-0.011, 0.023)	0.011 (-0.005, 0.026)
Tertile 3	0.027 (0.010, 0.044)	0.026 (0.009, 0.043)	0.025 (0.008, 0.042)	0.030 (0.014, 0.046)
Ln-deoxycortisol				
Continuous	0.024 (0.015, 0.033)	0.024 (0.015, 0.033)	0.024 (0.014, 0.033)	0.021 (0.012, 0.029)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.014 (-0.002, 0.031)	0.015 (-0.002, 0.032)	0.015 (-0.002, 0.032)	0.009 (-0.007, 0.024)
Tertile 3	0.043 (0.026, 0.060)	0.043 (0.026, 0.060)	0.042 (0.025, 0.059)	0.037 (0.021, 0.052)
Ln-cortisone				
Continuous	0.001 (-0.008, 0.010)	0.001 (-0.008, 0.010)	< 0.001 (-0.008, 0.009)	-0.001 (-0.009, 0.007)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.007 (-0.010, 0.024)	0.009 (-0.008, 0.026)	0.008 (-0.009, 0.025)	0.004 (-0.012, 0.020)
Tertile 3	0.011 (-0.006, 0.028)	0.012 (-0.005, 0.029)	0.011 (-0.006, 0.028)	0.006 (-0.010, 0.021)
Ln-MBP				
Ln-cortisol				
Continuous	0.001 (-0.003, 0.005)	0.002 (-0.002, 0.006)	0.001 (-0.003, 0.006)	0.001 (-0.003, 0.005)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.008 (-0.009, 0.026)	0.007 (-0.010, 0.024)	0.007 (-0.010, 0.024)	0.011 (-0.005, 0.027)
Tertile 3	0.028 (0.011, 0.046)	0.027 (0.010, 0.044)	0.026 (0.009, 0.043)	0.031 (0.015, 0.047)
Ln-deoxycortisol				
Continuous	0.025 (0.015, 0.034)	0.024 (0.015, 0.033)	0.024 (0.015, 0.033)	0.021 (0.013, 0.030)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.015 (-0.002, 0.032)	0.015 (-0.002, 0.032)	0.015 (-0.002, 0.031)	0.009 (-0.006, 0.024)
Tertile 3	0.044 (0.027, 0.061)	0.043 (0.026, 0.060)	0.042 (0.025, 0.059)	0.037 (0.021, 0.053)
Ln-cortisone				
Continuous	< 0.001 (-0.009, 0.009)	< 0.001 (-0.008, 0.009)	< 0.001 (-0.009, 0.009)	-0.002 (-0.010, 0.007)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.006 (-0.011, 0.023)	0.009 (-0.008, 0.026)	0.008 (-0.009, 0.025)	0.004 (-0.012, 0.020)
Tertile 3	0.009 (-0.009, 0.026)	0.010 (-0.007, 0.027)	0.010 (-0.007, 0.027)	0.004 (-0.012, 0.020)

Continued

Item	Linear regression $\beta$ coefficients			
	Unadjusted	Model 1	Model 2	Model 3
Ln-MPAP				
Ln-cortisol				
Continuous	0.002 (-0.003, 0.006)	0.002 (-0.002, 0.006)	0.002 (-0.002, 0.006)	0.001 (-0.003, 0.005)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.011 (-0.007, 0.029)	0.009 (-0.009, 0.026)	0.009 (-0.009, 0.026)	0.012 (-0.004, 0.029)
Tertile 3	0.030 (0.013, 0.048)	0.029 (0.011, 0.046)	0.027 (0.010, 0.045)	0.032 (0.016, 0.049)
Ln-deoxycortisol				
Continuous	0.025 (0.016, 0.035)	0.024 (0.015, 0.034)	0.024 (0.015, 0.033)	0.022 (0.013, 0.030)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.016 (-0.001, 0.033)	0.015 (-0.002, 0.032)	0.015 (-0.002, 0.032)	0.009 (-0.007, 0.025)
Tertile 3	0.045 (0.027, 0.063)	0.043 (0.025, 0.060)	0.042 (0.025, 0.059)	0.037 (0.021, 0.054)
Ln-cortisone				
Continuous	-0.001 (-0.010, 0.009)	< 0.001 (-0.009, 0.009)	< 0.001 (-0.009, 0.008)	-0.002 (-0.010, 0.006)
Tertile 1	Referent	Referent	Referent	Referent
Tertile 2	0.005 (-0.013, 0.022)	0.009 (-0.009, 0.026)	0.008 (-0.010, 0.025)	0.004 (-0.012, 0.020)
Tertile 3	0.006 (-0.012, 0.023)	0.008 (-0.010, 0.025)	0.008 (-0.010, 0.025)	0.002 (-0.014, 0.019)

**Note.** Model 1 was adjusted by age, sex, education, marital status, and per capita monthly income. Model 2 was further adjusted by drinking and smoking status, based on model 1. Model 3 was further adjusted by BMI and physical activity, based on model 2. SBP: systolic blood pressure; DBP: diastolic blood pressure; PP: pulse pressure; MAP: mean arterial pressure; MBP: mean blood pressure; MPAM: mean proportional arterial pressure. Ln-: natural log-transformed.