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Supplemental Material

Long-Term Exposure to Fine Particulate Matter, Blood Pressure, and Incident Hypertension in Taiwanese Adults

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Table S1 Sensitivity analyses on associations between long-term exposure to PM_{2.5} and blood pressure in Taiwanese adults at baseline

	Crude Model		Adjusted Model 1		Adjusted Model 2		Adjusted Model 3	
	Coef (95% CI)	<i>P</i>	Coef (95% CI)	<i>P</i>	Coef (95% CI)	<i>P</i>	Coef (95% CI)	<i>P</i>
Participants using home address (N=298,965)								
Systolic blood pressure	0.69 (0.61,0.77)	<0.001	0.54 (0.47,0.61)	<0.001	0.48 (0.41,0.55)	<0.001	0.46 (0.40,0.51)	<0.001
Diastolic blood pressure	0.25 (0.19,0.30)	<0.001	0.17 (0.13,0.22)	<0.001	0.14 (0.10,0.19)	<0.001	0.13 (0.09,0.17)	<0.001
Pulse pressure	0.44 (0.39,0.50)	<0.001	0.37 (0.31,0.42)	<0.001	0.34 (0.28,0.39)	<0.001	0.33 (0.28,0.38)	<0.001
Healthy participants (N=193,897) ^a								
Systolic blood pressure	0.57 (0.50,0.64)	<0.001	0.48 (0.42,0.55)	<0.001	0.44 (0.37,0.51)	<0.001	0.58 (0.51,0.64)	<0.001
Diastolic blood pressure	0.11 (0.06,0.16)	<0.001	0.08 (0.04,0.13)	<0.001	0.07 (0.02,0.11)	<0.001	0.14 (0.09,0.18)	<0.001
Pulse pressure	0.46 (0.40,0.51)	<0.001	0.40 (0.34,0.46)	<0.001	0.38 (0.32,0.43)	<0.001	0.44 (0.39,0.50)	<0.001

Results are changes in blood pressure for each 10-μg/m³ increment in the 2-year average PM_{2.5} concentration.

Crude Mode: no adjustment; Adjusted Model 1: adjusted by age, sex and educational level; Adjusted Model 2: also adjusted by smoking, alcohol use, physical activity, occupational exposure to dust/organic solvents and season; Adjusted Model 3: also adjusted by body mass index, hypertension (not in healthy participants), diabetes (using blood fasting glucose instead in healthy participants), hyperlipidaemia (using total cholesterol instead in healthy participants), cardiovascular disease/stroke and cancer (not in healthy participants).

a: Participants without hypertension, diabetes, hyperlipidaemia, obesity, cardiovascular disease/stroke or cancer.

Table S2 Sensitivity analysis on associations between long-term exposure to PM_{2.5} and incident hypertension in Taiwanese adults

PM _{2.5} (μg/m ³)	Crude Model		Adjusted Model 1		Adjusted Model 2		Adjusted Model 3	
	HR (95% CI)	<i>P</i>	HR (95% CI)	<i>P</i>	HR (95% CI)	<i>P</i>	HR (95% CI)	<i>P</i>
Participants using home address (N=102,846, cases=13,555)								
1st Quartile (-21.4)	Ref	-	Ref	-	Ref	-	Ref	-
2nd Quartile (21.4–23.8)	1.06 (1.01,1.11)	0.01	1.10 (1.05,1.15)	<0.001	1.10 (1.05,1.15)	<0.001	1.10 (1.05,1.15)	<0.001
3rd Quartile (23.8–31.1)	1.10 (1.05,1.15)	<0.001	1.14 (1.09,1.20)	<0.001	1.14 (1.08,1.2)	<0.001	1.12 (1.07,1.18)	<0.001
4th Quartile (31.1–)	1.17 (1.12,1.23)	<0.001	1.14 (1.09,1.20)	<0.001	1.14 (1.09,1.2)	<0.001	1.11 (1.06,1.17)	<0.001
Trend test	-	<0.001	-	<0.001	-	<0.001	-	<0.001
10 μg/m ³ increment	1.07 (1.04,1.09)	<0.001	1.06 (1.03,1.08)	<0.001	1.05 (1.03,1.08)	<0.001	1.04 (1.02,1.06)	<0.001
Healthy participants (N=80,768, cases=6,215)^a								
1st Quartile (-21.6)	Ref	-	Ref	-	Ref	-	Ref	-
2nd Quartile (21.6–23.9)	1.01 (0.94,1.09)	0.74	1.05 (0.98,1.12)	0.20	1.05 (0.98,1.12)	0.19	1.05 (0.98,1.13)	0.17
3rd Quartile (23.9–28.6)	1.06 (0.99,1.14)	0.10	1.14 (1.06,1.22)	0.001	1.14 (1.06,1.22)	<0.001	1.13 (1.05,1.21)	0.001
4th Quartile (28.6–)	1.20 (1.12,1.28)	<0.001	1.16 (1.09,1.24)	<0.001	1.16 (1.08,1.24)	<0.001	1.17 (1.10,1.25)	<0.001
Trend test	-	<0.001	-	<0.001	-	<0.001	-	<0.001
10 μg/m ³ increment	1.08 (1.05,1.11)	<0.001	1.07 (1.04,1.10)	<0.001	1.07 (1.04,1.10)	<0.001	1.07 (1.04,1.11)	<0.001
Participants with follow-up ≥ 2 years (N=96,472, cases=12,106)								
1st Quartile (-21.6)	Ref	-	Ref	-	Ref	-	Ref	-
2nd Quartile (21.6–24.0)	1.11 (1.06,1.17)	<0.001	1.15 (1.09,1.21)	<0.001	1.15 (1.09,1.21)	<0.001	1.15 (1.09,1.21)	<0.001
3rd Quartile (24.0–28.9)	1.20 (1.14,1.27)	<0.001	1.27 (1.21,1.34)	<0.001	1.27 (1.21,1.34)	<0.001	1.25 (1.19,1.32)	<0.001
4th Quartile (28.9–)	1.24 (1.18,1.30)	<0.001	1.22 (1.16,1.28)	<0.001	1.21 (1.16,1.27)	<0.001	1.18 (1.13,1.24)	<0.001
Trend test	-	<0.001	-	<0.001	-	<0.001	-	<0.001
10 μg/m ³ increment	1.08 (1.05,1.10)	<0.001	1.07 (1.05,1.09)	<0.001	1.07 (1.05,1.09)	<0.001	1.05 (1.03,1.08)	<0.001

Crude Model: no adjustment; Adjusted Model 1: adjusted by age, sex and educational level; Adjusted Model 2: also adjusted by smoking, alcohol use, physical activity, occupational exposure to dust/organic solvents and season; Adjusted Model 3: also adjusted by body mass index, diabetes (using blood fasting glucose instead in healthy participants), hyperlipidaemia (using total cholesterol instead in healthy participants), cardiovascular disease/stroke and cancer (not in healthy participants).

a: Participants without diabetes, hyperlipidaemia, obesity, cardiovascular disease/stroke or cancer.