

Supplemental Materials

Long-term exposure to ambient fine particles and heart rate in Northwestern China: Findings from 1.8 million adults of the Kashgar Prospective Cohort Study (KPCS)

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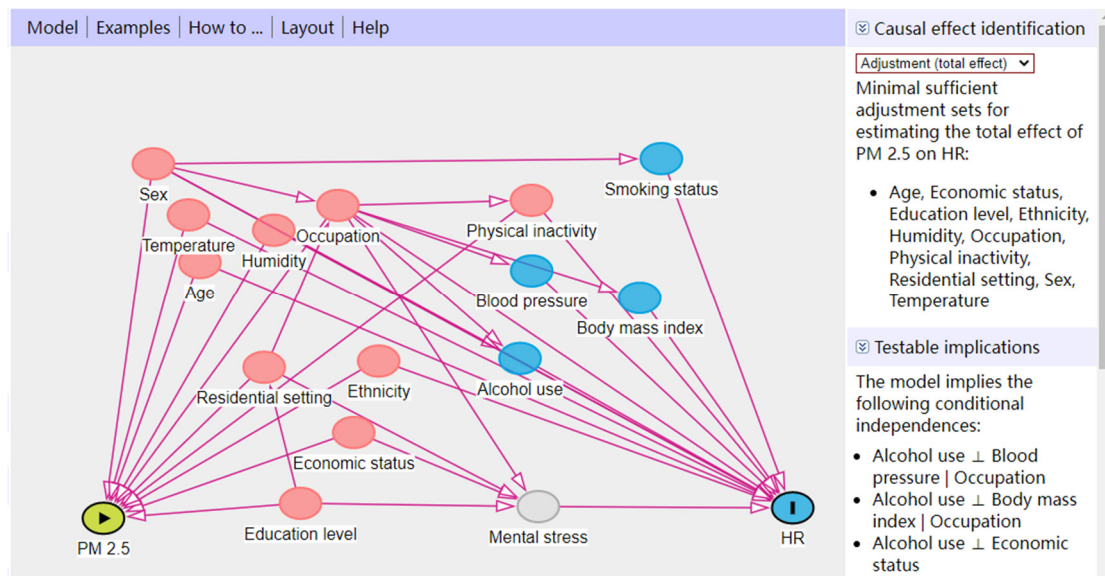


Figure S1: Directed acyclic graph for the association of PM_{2.5} with HR, created with the help of dagitty.net (www. Dagitty.net). Minimal sufficient adjustment sets: age, economic status, education level, ethnicity, humidity, occupation, physical inactivity, residential setting, sex, and temperature.

Table S1: Unadjusted associations of PM_{2.5} with tachycardia and RHR.

PM _{2.5}	Tachycardia		RHR (bpm)	
	OR (95% CI)	<i>p</i> -value	β (95% CI)	<i>p</i> -value
Categories				
Q ₁	1 (Reference)		0 (Reference)	
Q ₂	1.111 (1.101, 1.122)	<0.0001	0.434 (0.389, 0.479)	<0.0001
Q ₃	1.236 (1.225, 1.247)	<0.0001	1.689 (1.644, 1.735)	<0.0001
Q ₄	1.324 (1.312, 1.336)	<0.0001	2.744 (2.699, 2.789)	<0.0001
Per IQR increase	1.066 (1.064, 1.068)	<0.0001	0.593 (0.584, 0.601)	<0.0001

Table S2: Associations of PM_{2.5} with tachycardia and RHR, using the 2015-2016 average concentration of PM_{2.5}.

PM _{2.5}	Tachycardia		RHR (bpm)	
	OR (95% CI)	<i>p</i> -value	β (95% CI)	<i>p</i> -value
Categories				
Q ₁	1 (Reference)		0 (Reference)	
Q ₂	1.020 (1.010, 1.030)	<0.0001	-0.219 (-0.266, -	<0.0001
Q ₃	1.079 (1.068, 1.090)	<0.0001	0.092 (0.043, 0.141)	<0.0001
Q ₄	1.252 (1.239, 1.266)	<0.0001	1.985 (1.931, 2.038)	<0.0001
Per IQR increase	1.051 (1.048, 1.053)	<0.0001	0.460 (0.447, 0.473)	<0.0001

Note: adjusted for age, sex, ethnicity, education level, economic status, occupation, and residential setting, physical inactivity, humidity, and temperature.

Table S3: Associations of PM_{2.5} with tachycardia and RHR, using 2014-2016 concentration of PM_{2.5}.

PM _{2.5}	Tachycardia		RHR (bpm)	
	OR (95% CI)	<i>p</i> -value	β (95% CI)	<i>p</i> -value
Categories				
Q ₁	1 (Reference)		0 (Reference)	
Q ₂	1.010 (1.000, 1.020)	<0.0001	-0.152 (-0.196, -0.108)	<0.0001
Q ₃	1.078 (1.067, 1.089)	<0.0001	0.355 (0.311, 0.400)	<0.0001
Q ₄	1.246 (1.233, 1.260)	<0.0001	1.893 (1.847, 1.938)	<0.0001
Per IQR increase	1.060 (1.057, 1.064)	<0.0001	0.537 (0.521, 0.552)	<0.0001

Note: adjusted for age, sex, ethnicity, education level, economic status, occupation, and residential setting, physical inactivity, humidity, and temperature.

Table S4: Associations of PM_{2.5} with tachycardia and RHR, additionally adjusted for smoking status, alcohol use, hypertension, and body mass index.

PM _{2.5}	Tachycardia		RHR (bpm)	
	OR (95% CI)	<i>p</i> -value	β (95% CI)	<i>p</i> -value
Categories				
Q ₁	1 (Reference)		0 (Reference)	
Q ₂	1.081 (1.070, 1.091)	<0.0001	0.148 (0.100, 0.195)	<0.0001
Q ₃	1.208 (1.195, 1.222)	<0.0001	1.345 (1.292, 1.399)	<0.0001
Q ₄	1.308 (1.293, 1.324)	<0.0001	2.590 (2.531, 2.648)	<0.0001
Per IQR increase	1.063 (1.060, 1.065)	<0.0001	0.521 (0.510, 0.533)	<0.0001

Note: adjusted for age, sex, ethnicity, education level, economic status, occupation, residential setting, physical inactivity, humidity, temperature, smoking status, alcohol use, hypertension, and body mass index.

Table S5: Associations of PM_{2.5} with tachycardia and RHR, excluding participants with cardiovascular disease, renal disease, and diabetes (n=218,496).

PM _{2.5}	Tachycardia		RHR (bpm)	
	OR (95% CI)	<i>p</i> -value	β (95% CI)	<i>p</i> -value
Categories				
Q ₁	1 (Reference)		0 (Reference)	
Q ₂	1.081 (1.070, 1.093)	<0.0001	0.167 (0.118, 0.216)	<0.0001
Q ₃	1.228 (1.215, 1.241)	<0.0001	1.419 (1.363, 1.475)	<0.0001
Q ₄	1.267 (1.253, 1.281)	<0.0001	2.611 (2.550, 2.672)	<0.0001
Per IQR increase	1.060 (1.058, 1.063)	<0.0001	0.497 (0.485, 0.509)	<0.0001

Note: adjusted for age, sex, ethnicity, education level, economic status, occupation, residential setting, physical inactivity, humidity, and temperature.