

Table S1 Associations of each 10 µg/m³ increase in pollutants (each 1mg/m³ increase in CO concentration)^a with relative risk of outpatient visits for AR using single and two pollutant models in three cities.

Pollutants and Models	PM _{2.5}	NO ₂	CO
Dingxi			
Single-pollutant model	4.696(1.899,11.614)	1.248(1.080,1.442)	2.006(1.107,3.637)
+ PM _{2.5}	-	1.349(1.153,1.579)	2.098(1.161,6.567)
+ PM ₁₀	-	1.255(1.080,1.454)	1.926(1.043,3.556)
+ SO ₂	4.483(1.952,6.476)	1.173(1.082,1.373)	1.984(1.043,3.991)
+ NO ₂	4.987 (1.652,7.519)	-	2.067(1.244,2.562)
+ O ₃ 8h	4.451(1.564,16.231)	1.241(1.072,1.436)	2.261(1.225,4.174)
+ CO	5.096(1.594,14.328)	1.236(1.096,1.343)	-
Longnan			
Single-pollutant model	2.462 (1.474,4.113)	2.378(1.304,4.336)	1.502(1.096,2.059)
+ PM _{2.5}	-	2.292(1.233,3.750)	1.732(1.044,3.449)
+ PM ₁₀	-	2.099(1.204,4.043)	1.480(1.032,2.123)
+ SO ₂	2.263(1.741,3.908)	2.142(1.164,3.870)	1.566(1.032,3.079)
+ NO ₂	2.408(1.741,4.623)	-	1.468(1.138,3.244)
+ O ₃ 8h	2.504(1.743,4.435)	2.104(0.240,2.410)	1.684(1.122,2.321)
+ CO	2.595(1.457,4.492)	2.213(1.225,4.228)	-
Tianshui			
Single-pollutant model	1.062(1.033,1.092)	1.142(1.090,1.197)	1.385(1.137,1.686)
+ PM _{2.5}	-	1.129(1.061,1.202)	1.127(0.890, 1.427)
+ PM ₁₀	-	1.134(1.075,1.196)	1.329(1.084,1.629)
+ SO ₂	1.010 (1.013,1.048)	1.164(1.075,1.232)	1.026(1.084,1.304)
+ NO ₂	1.058 (1.016,1.092)	-	1.256(1.078,1.612)
+ O ₃ 8h	1.054(1.024,1.084)	1.137(1.082,1.196)	1.268(1.024,1.569)
+ CO	1.046(1.011,1.082)	1.141(1.076,1.210)	-

^a Concentration of PM_{2.5} at lag04, NO₂ at lag06 and CO at lag06 were analyzed.

Table S2 Relative risk (%) and 95%CI of daily outpatient visits for AR associated with a 10 $\mu\text{g}/\text{m}^3$ increase in pollutants concentrations (each 1mg/m³ increase in CO concentration)^a under varying degrees of freedom for the smooth functions of calendar time in single-pollutant models.

df for time (per year)	PM _{2.5}	NO ₂	CO
Dingxi			
6	5.004(2.119,12.781)	1.252(1.088,1.440)	2.001(1.100,3.623)
7	4.696(1.899,11.614)	1.248(1.080,1.442)	2.006(1.107,3.637)
8	4.396(1.823,10.599)	1.164(1.004,1.350)	2.010(1.009,3.578)
9	4.337(1.797,10.467)	1.156(1.010,1.352)	2.090(1.111,3.865)
10	4.811(1.625,8.940)	1.173(1.014,1.356)	2.011(1.105,3.754)
Longnan			
6	2.462 (1.474,4.113)	2.370(1.300,4.336)	1.363(1.087,1.920)
7	2.384(1.574, 4.115)	2.378(1.304,4.336)	1.502(1.096,2.059)
8	2.228(1.453,4.053)	2.323(1.297,4.297)	1.503(1.068,2.117)
9	2.435(1.574,4.216)	2.289(1.304,4.401)	1.450(1.020,2.062)
10	2.375(1.572,4.113)	2.254(1.104,4.345)	1.453(1.050,2.010)
Tianshui			
6	1.060(1.029,1.092)	1.115(1.056,1.178)	1.217(1.083,1.508)
7	1.062(1.033,1.092)	1.142(1.090,1.197)	1.385(1.137,1.686)
8	1.060(1.029,1.092)	1.177(1.113,1.244)	1.351(1.093,1.669)
9	1.037(1.006,1.070)	1.153(1.089,1.221)	1.195(1.063,1.483)
10	1.051(1.021,1.083)	1.154(1.093,1.218)	1.294(1.043,1.604)

^a Concentration of PM_{2.5} at lag04, NO₂ at lag06, and CO at lag06 were analyzed.