Table S1. The characteristics of study participants according to

tertile groups of 2-y PM2.5

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Characteristic | Q1  (≤42.56)  (n=3162) | Q2  (42.57-68.99)  (n=3120) | Q3  (≥69.00)  (n=3034) | *P* value |
| At baseline | | | | |
| Age, mean (SD), y | 57.81(9.12) | 58.55(9.23) | 57.63(8.76) | <0.001 |
| Gender (male, n, %) | 1455(46.0) | 1473(47.2) | 1400(46.1) | 0.582 |
| Rural (n, %) | 2792(88.3) | 2481(79.5) | 2554(84.2) | <0.001 |
| North (n, %) | 983(31.1) | 836(26.8) | 2804(75.9) | <0.001 |
| *Educational level (n, %)* | | | | |
| Elementary and below  Middle  High and above | 2337(73.9) | 2129(68.2) | 1922(63.3) | <0.001 |
| 788(24.9) | 948(30.4) | 1072(35.4) |
| 37(1.2) | 43(1.4) | 40(1.3) |
| Marital status (married, n, %) | 2790(88.2) | 2799(89.7) | 2779(91.6) | <0.001 |
| *Smoking status (n, %)* | | | | |
| Non-smoker  Ex-smoker  Current smoker | 1988(62.9) | 1888(60.5) | 1909(62.9) | <0.001 |
| 192(6.1) | 211(6.8) | 270(8.9) |
| 982(31.1) | 1021(32.7) | 855(28.2) |
| *Drinking status (n, %)* | | | | |
| Never  <1 time/month  ≥1 time/month | 2117(67.0) | 2056(65.9) | 2016(66.4) | 0.001 |
| 272(8.6) | 204(6.5) | 259(8.6) |
| 773(24.4) | 860(27.6) | 759(25.0) |
| BMI, mean (SD), kg/m2 | 22.89(3.47) | 23.18(3.43) | 24.22(3.57) | <0.001 |
| Hypertension (n, %) | 506(16) | 572(18.3) | 7070(23.3) | <0.001 |
| Diabetes (n, %) | 84(2.7) | 120(3.8) | 198(6.5) | <0.001 |
| Dyslipidemia (n, %) | 184(5.8) | 145(4.6) | 316(10.4) | <0.001 |
| Cooking fuel (solid fuel, n, %) | 1885(59.6) | 1780(57.1) | 1718(56.6) | 0.035 |
| *Indoor temperature (n, %)* | | | | |
| Hot  Bearable  Cold | 244(7.7) | 522(16.7) | 374(12.3) | <0.001 |
| 2753(87.1) | 2497(80.0) | 2596(85.6) |
| 165(5.2) | 101(3.2) | 64(2.1) |
| At follow-up | | | | |
| New-onset cardiac events (n, %) | 340(10.8) | 387(12.4) | 692(22.8) | <0.001 |
| New-onset stroke (n, %) | 172(5.4) | 193(6.2) | 278(9.2) | <0.001 |
| New-onset CVD (n, %) | 463(14.6) | 539(17.3) | 878(28.9) | <0.001 |

BMI: body mass index; CVD: cardiovascular disease.

Table S2. The characteristics of study participants according to

2-y air temperature groups

|  |  |  |  |
| --- | --- | --- | --- |
| Characteristic | Bearable (>20.27)  (n=6987) | Low ( ≤20.27)  (n=2329) | P |
| At baseline | | |  |
| Age, mean (SD), y | 58.38(9.16) | 56.86(8.62) | <0.001 |
| Gender (male, n, %) | 3204(45.9) | 1124(48.3) | 0.044 |
| Rural (n, %) | 5977(85.5) | 1850(79.4) | <0.001 |
| North (n, %) | 1825(26.1) | 2298(98.7) | <0.001 |
| *Educational level (n, %)* | | | |
| Elementary and below  Middle  High and above | 5021(71.9) | 1367(58.7) | <0.001 |
| 1898(27.1) | 910(39.1) |
| 68(1.0) | 52(2.2) |
| Marital status (married, n, %) | 6255(89.5) | 2113(90.7) | 0.097 |
| *Smoking status (n, %)* | | | |
| Non-smoker  Ex-smoker  Current smoker | 4405(63.0) | 1380(59.3) | 0.001 |
| 508(7.3) | 165(7.0) |
| 2074(29.7) | 784(33.7) |
| *Drinking status (n, %)* | | | |
| Never  <1 time/month  ≥1 time/month | 4600(65.8) | 1589(68.2) | <0.001 |
| 515(7.4) | 220(9.5) |
| 1872(26.8) | 520(22.3) |
| BMI, mean (SD), kg/m2 | 23.18(3.44) | 24.14(3.71) | <0.001 |
| Hypertension (n, %) | 1236(17.7) | 549(23.6) | <0.001 |
| Diabetes (n, %) | 286(4.1) | 116(5.0) | 0.068 |
| Dyslipidemia (n, %) | 427(6.1) | 218(9.4) | <0.001 |
| Cooking fuel (solid fuel, n, %) | 3911(56.0) | 1472(63.2) | <0.001 |
| *Indoor temperature (n, %)* | | | |
| Hot | 918(13.1) | 222(9.5) | <0.001 |
| Bearable | 5832(83.5) | 2014(86.5) |
| Cold | 237(3.4) | 93(4.0) |
| At follow-up | | |  |
| New-onset cardiac events (n, %) | 829(11.9) | 590(25.3) | <0.001 |
| New-onset stroke (n, %) | 428(6.1) | 215(9.2) | <0.001 |
| New-onset CVD (n, %) | 1155(16.5) | 725(31.1) | <0.001 |

BMI: body mass index; CVD: cardiovascular disease.

Table S3. Multivariable-adjusted odd ratios for the association between PM2.5, ambient temperature and prevalence of cardiovascular disease

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Exposure | Index | CVD | | Cardiac events | | Stroke | |
| OR (95%CI) | *P*-value | OR (95%CI) | *P*-value | OR (95%CI) | *P*-value |
| PM2.5 | Per 10μg/m3 increase | 1.02(1.00,1.04) | <0.001 | 1.03(1.01,1.05) | <0.001 | 1.02(0.98,1.06) | <0.001 |
| Group |  |  |  |  |  |  |
| Q1 | Ref. |  | Ref. |  | Ref. |  |
| Q2 | 1.04(0.90,1.20) | 0.588 | 0.99(0.85,1.16) | 0.925 | 1.49(1.10,2.02) | 0.011 |
| Q3 | 1.35(1.16,1.57) | <0.001 | 1.43(1.21,1.67) | <0.001 | 1.19(0.85,1.66) | 0.316 |
| Temperature | Per 1℃ increased | 0.90(0.89,0.92) | <0.001 | 0.89(0.88,0.91) | <0.001 | 0.97(0.94,1.00) | 0.044 |
| Group |  |  |  |  |  |  |
| Bearable | Ref. |  | Ref. |  | Ref. |  |
| Low | 1.71(1.43,2.05) | <0.001 | 1.63(1.35,1.97) | <0.001 | 1.98(1.30,3.01) | 0.001 |
| Winter |  |  |  |  |  |  |
| Per 1℃ increased | 0.91(0.90,0.92) | <0.001 | 0.90(0.89,0.91) | <0.001 | 0.97(0.94,1.00) | 0.041 |
| Summer |  |  |  |  |  |  |
| Per 1℃ increased | 0.93(0.90,0.96) | <0.001 | 0.92(0.89,0.95) | <0.001 | 0.96(0.90,1.03) | 0.305 |

Adjusted for age, gender, education, marital status, rural, north, drinking, smoking, BMI, hypertension, diabetes, dyslipidemia, indoor temperature, cooking energy type and PM2.5\ambient temperature; CVD: cardiovascular disease.

Table S4. Multivariable-adjusted hazard ratios for the association between PM2.5, ambient temperature and

incident cardiovascular disease.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Exposure | Index | CVD | | Cardiac events | | Stroke | |
| HR (95%CI) | *P*-value | HR (95%CI) | *P*-value | HR (95%CI) | *P*-value |
| PM2.5 | Group |  |  |  |  |  |  |
| Q1 | Ref. |  | Ref. |  | Ref. |  |
| Q2 | 1.13(1.00,1.28) | 0.060 | 1.17(1.01,1.36) | 0.043 | 0.94(0.77,1.16) | 0.587 |
| Q3 | 1.92(1.68,2.20) | <0.001 | 2.31(1.98,2.70) | <0.001 | 1.23(0.99,1.53) | 0.061 |
| Temperature | Group |  |  |  |  |  |  |
| Bearable | Ref. |  | Ref. |  | Ref. |  |
| Low | 1.77(1.53,2.04) | <0.001 | 2.13(1.81,2.52) | <0.001 | 1.11(0.86,1.43) | 0.418 |
| Winter |  |  |  |  |  |  |
| Per 1℃ increased | 0.95(0.94,0.96) | <0.001 | 0.93(0.92,0.94) | <0.001 | 0.98(0.96,1.00) | 0.075 |
| Summer |  |  |  |  |  |  |
| Per 1℃ increased | 0.88(0.85,0.90) | <0.001 | 0.85(0.82,0.87) | <0.001 | 0.95(0.91,1.00) | 0.037 |

Adjusted for age, gender, education, marital status, rural, north, drinking, smoking, BMI, hypertension, diabetes, dyslipidemia, indoor temperature, cooking energy type and PM2.5\ambient temperature; CVD: cardiovascular disease.

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Figure S1.Flow chart of our study. CVD: cardiovascular disease; BMI: body mass index.

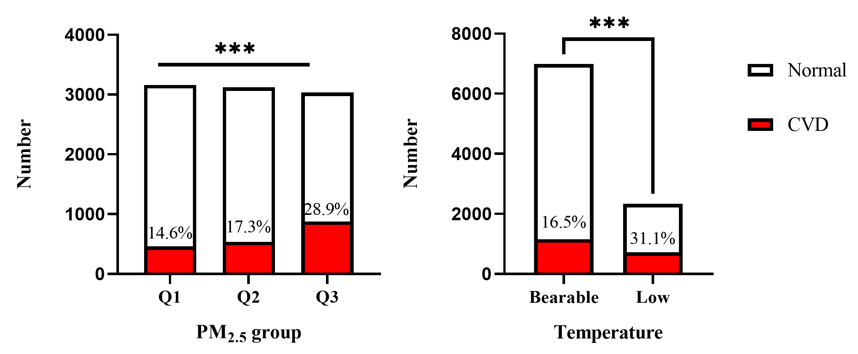


Figure S2. The comparison of the incidence of CVDs according to PM2.5 group and temperature group. \*\*\**P*＜0.001

CVD: cardiovascular disease.



Figure S3. The map of the 2-year distribution of PM2.5 concentration and air temperature in the cities in which participants lived.



Figure S4. Adjusted cubic spline model of the association between PM2.5, air temperature and risk of new-onset CVD, cardiac events and stroke, respectively. Adjusted for age, gender, education, marital status, rural, north, drinking, smoking, BMI, hypertension, diabetes, dyslipidemia, indoor temperature, cooking energy type and PM2.5\ambient temperature; CVD: cardiovascular disease.