|  |  |
| --- | --- |
| Scale | Value |
| Mean | 9.11 |
| Variance | 10.68 |

Supplementary Table 1. Mean and the variance of daily AMI counts in our study

Supplementary Table 2. Average air-pollutant concentration and weather conditions during the study period (2005 to 2014)

|  |  |  |  |
| --- | --- | --- | --- |
| Value | All seasons | Cold seasonb | Warm seasonb |
| PM2.5a ($μg/m^{3}$) | 25.7±14.2 | 27.7±14.9 | 23.0±12.5 |
| Meteorological indicators |  |  |  |
| Daily average temperature (℃) | 12.7±10.6 | 5.39±7.55 | 22.8±3.67 |
| Daily maximum temperature (℃) | 17.1±10.8 | 9.83±8.07 | 27.1±3.81 |
| Daily minimum temperature (℃) | 8.96±10.7 | 1.54±7.32 | 19.2±4.13 |
| Relative humidity (%)  | 60.6±15.0 | 55.7±13.8 | 67.4±13.9 |
| Dew point temperature (℃) | 4.55±12.1 | -3.56±8.70 | 15.8±5.45 |
| aPM2.5: particulate matter <2.5$ μm$ in aerodynamic diameterSummary statistics in Mean±SDb p<0.001 for all comparisons between the cold and warm season |

Supplementary Table 3. Newly diagnosed AMI patients and population number in Korea from 2005 to 2014

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 　 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| AMI Patients |  |  |  |  |  |  |  |  |  |
| Overall  | 17872 | 19852 | 19593 | 18428 | 18253 | 18054 | 18647 | 19526 | 20569 | 21773 |
| Seoul | 3598 | 3401 | 3345 | 3216 | 3217 | 3177 | 3173 | 3312 | 3345 | 3490 |
| Populations |  |  |  |  |  |  |  |  |  |  |
| Overall  | 35881240 | 36355422 | 36785255 | 37293861 | 37709753 | 38145880 | 38696642 | 39187046 | 39663606 | 40243237 |
| Seoul | 74411988 | 75454641 | 76440109 | 77596564 | 78561791 | 79568712 | 80784509 | 81919897 | 83026467 | 84354007 |
| Crude incidencea |  |  |  |  |  |  |  |  |
| Overall  | 49.8 | 54.6 | 53.3 | 49.4 | 48.4 | 47.3 | 48.2 | 49.8 | 51.9 | 54.1 |
| Seoul | 46.4 | 43.4 | 42.4 | 40.4 | 40.0 | 39.5 | 39.3 | 40.9 | 41.2 | 42.7 |
| aIncidence of newly diagnosed myocardial infarction are presented as 100,000 person-years |

Supplementary Table 4. Adjustive relative risk for daily cases of AMI events (95% CI) per 1$℃$ increase in temperaturea

|  |  |
| --- | --- |
| Temperature levels | Relative Risk (95% CI) |
| Mean temperature | 0.998(0.978-1.017) |
| Minimum temperature | 0.999(0.989-1.009) |
| Maximum temperature | 1.007(0.997-1.016) |
| a The model for this table is shown as follows:$Log\left[E\left(Y\_{t}\right)\right]= intercept+βTemperature+s\left(pm\right)+ s(Calendar time, 4\*10)+s(Dew point temperature,3)+s\left(relative humidity,5\right)$ + day of week |

Supplementary Table 5. Temperature level of Seoul in each month in our study

|  |  |
| --- | --- |
| Month | Daily temperature ($℃$) |
| 　 | Mean | Maximum | Minimum |
| January | -2.46 | 1.44 | -5.91 |
| February | 0.50 | 4.80 | -3.20 |
| March | 5.47 | 10.1 | -1.49 |
| April | 12.0 | 17.0 | 7.67 |
| May | 18.3 | 23.6 | 13.8 |
| June | 22.9 | 27.6 | 19.1 |
| July | 25.0 | 28.4 | 22.2 |
| August | 26.2 | 29.9 | 23.2 |
| September | 21.7 | 26.0 | 18.0 |
| October | 15.5 | 20.5 | 11.2 |
| November | 7.60 | 11.9 | 3.80 |
| December | -1.00 | 2.87 | -4.46 |

Supplementary Table 6. Adjusted relative risk for daily cases of AMI event (95% CI) per 10$μg/m^{3}$ increase in PM2.5 when temperature levels are between 3.70-14.30$℃$**,** in single and co-pollutant modelsab

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Lag day | RR (95% CI) |  |  |  |
| None | +CO | +SO2 | +NO2 |
| Lag 0 | 1.030(1.014-1.046) \* | 1.030(1.007-1.053) \* | 1.049(1.025-1.074) \* | 1.033(1.012-1.054) \* |
| Lag 1 | 1.006(0.990-1.022) | 0.995(0.972-1.018) | 1.002(0.979-1.026) | 0.991(0.970-1.011) |
| Lag 2 | 1.002(0.986-1.019) | 0.992(0.967-1.017) | 1.001(0.976-1.026) | 0.989(0.968-1.012) |
| Lag 3 | 1.000(0.983-1.016) | 1.007(0.982-1.032) | 1.006(0.981-1.032) | 1.005(0.983-1.027) |
| Lag 01 | 1.024(1.006-1.042) \* | 1.019(0.992-1.046) | 1.033(1.005-1.061) \* | 1.015(0.991-1.040) |
| Lag 02 | 1.022(1.002-1.042) \* | 1.012(0.982-1.044) | 1.029(0.997-1.061) | 1.005(0.977-1.035) |
| Lag 03 | 1.018(0.996-1.041) | 1.017(0.984-1.051) | 1.030(0.996-1.066) | 1.012(0.980-1.045) |
| \*P<0.05; AMI, acute myocardial infarction; CI, confidence intervala Results adjusted for calendar time, daily mean temperature, dew-point temperature, relative humidity and day of week.b Using temperature levels at lag 0 |