Supplemental materials

Table S1. Relative risk estimates by lag days (0-5) for daily CVD (subtypes) from both HA and ER visits associated with daily concentration of $PM_{2.5}$ during the study period.

(a)	**Makro**				
	HTN	**IHD**	**MI**	**CHF**	**Arrhythmias**
Lag0	**0.9718 (0.9504, 0.9937)**	**1.0290 (1.0072, 1.0513)**	0.9981 (0.9694, 1.0277)	**1.0400 (1.0038, 1.0776)**	0.9544 (0.8965, 1.0161)
Lag1	0.9926 (0.9537, 1.0331)	**1.0504 (1.0103, 1.0921)**	1.0288 (0.9797, 1.0804)	1.0323 (0.9679, 1.1008)	1.0955 (0.9875, 1.2152)
Lag2	1.0164 (0.9823, 1.0516)	**1.0357 (1.0018, 1.0707)**	1.0208 (0.9788, 1.0647)	0.9678 (0.9158, 1.0227)	**1.1130 (1.0191, 1.2155)**
Lag3	**1.0424 (1.0190, 1.0664)**	0.9970 (0.9750, 1.0196)	1.0040 (0.9758, 1.0330)	0.9860 (0.9506, 1.0228)	1.0252 (0.9664, 1.0875)
Lag4	1.0710 (0.9922, 1.1560)	1.0096 (0.9364, 1.0886)	0.9647 (0.8772, 1.0609)	0.9016 (0.7963, 1.0209)	1.1069 (0.9051, 1.3536)
Lag5	0.9897 (0.9701, 1.0096)	**1.0237 (1.0041, 1.0436)**	**1.0370 (1.0102, 1.0645)**	**1.0326 (1.0000, 1.0663)**	**1.0586 (1.0013, 1.1192)**
(b)	**KU**				
Lag0	1.0118 (0.9950, 1.0289)	**1.0283 (1.0109, 1.0460)**	1.0172 (0.9933, 1.0418)	1.0039 (0.9752, 1.0335)	1.0455 (0.9905, 1.1035)
Lag1	**1.0153 (1.0004, 1.0304)**	**1.0169 (1.0018, 1.0323)**	1.0182 (0.9971, 1.0398)	1.0237 (0.9978, 1.0502)	**1.0681 (1.0186, 1.1201)**
Lag2	0.9883 (0.9748, 1.0020)	1.0083 (0.9943, 1.0226)	**0.9715 (0.9526, 0.9907)**	0.9996 (0.9761, 1.0238)	**1.1314 (1.0825, 1.1826)**
Lag3	1.0116 (0.9942, 1.0292)	**1.0225 (1.0047, 1.0407)**	**1.0351 (1.0100, 1.0609)**	1.0068 (0.9771, 1.0375)	**1.0576 (1.0002, 1.1182)**
Lag4	0.9724 (0.9335, 1.0129)	1.0358 (0.9940, 1.0794)	1.0096 (0.9491, 1.0739)	**1.1084 (1.0372, 1.1845)**	1.1003 (0.9602, 1.2608)
Lag5	1.0070 (0.9874, 1.0270)	0.9879 (0.9683, 1.0080)	**1.0410 (1.0123, 1.0706)**	0.9894 (0.9560, 1.0239)	**1.1153 (1.0464, 1.1886)**

*Combined gender and age groups. Bold indicates p-value <0.05 at 95% Confidence Intervals.

Table S2. Relative risk estimates by lag days (0-5) for daily CVD (total and subtypes) from both HA and ER visits associated with daily concentration of $PM_{2.5}$ during the study period.

(a)	**Keamari**				
	HTN	**IHD**	**MI**	**CHF**	**Arrhythmias**
Lag0	0.9769 (0.8388, 1.1377)	0.9005 (0.7559, 1.0727)	0.9797 (0.7929, 1.2103)	1.0298 (0.7758, 1.3669)	0.8214 (0.6101, 1.1059)
Lag1	1.0070 (0.9699, 1.0456)	1.0037 (0.9616, 1.0477)	1.0182 (0.9634, 1.0761)	0.9696 (0.9030, 1.0411)	**0.8181 (0.7328, 0.9133)**
Lag2	0.9009 (0.7770, 1.0445)	0.9388 (0.7922, 1.1125)	1.1814 (0.9645, 1.4470)	1.0544 (0.8029, 1.3846)	1.1612 (0.8745, 1.5418)
Lag3	1.0142 (0.9757, 1.0542)	0.9701 (0.9283, 1.0138)	0.9962 (0.9412, 1.0545)	0.9807 (0.9114, 1.0552)	1.0046 (0.8971, 1.1251)
Lag4	0.9141 (0.7806, 1.0705)	0.8364 (0.6972, 1.0035)	1.0348 (0.8316, 1.2876)	0.9337 (0.6965, 1.2517)	1.0474 (0.7750, 1.4155)
Lag5	1.0184 (0.9820, 1.0560)	0.9964 (0.9560, 1.0386)	0.9641 (0.9138, 1.0170)	1.0254 (0.9571, 1.0985)	0.9197 (0.8268, 1.0230)
(b)	**Malir**				
Lag0	**0.9727 (0.9569, 0.9889)**	**1.0364 (1.0164, 1.0567)**	**1.0288 (1.0022, 1.0561)**	**1.0425 (1.0085, 1.0776)**	1.0339 (0.9848, 1.0855)
Lag1	**0.9744 (0.9570, 0.9921)**	**1.0392 (1.0172, 1.0616)**	**1.0450 (1.0153, 1.0754)**	**1.0572 (1.0194, 1.0965)**	1.0212 (0.9681, 1.0772)
Lag2	**0.9674 (0.9508, 0.9843)**	**1.0343 (1.0133, 1.0558)**	**1.0324 (1.0043, 1.0613)**	1.0328 (0.9973, 1.0696)	0.9698 (0.9212, 1.0208)
Lag3	0.9884 (0.9211, 1.0605)	1.0358 (0.9612, 1.1162)	**1.1529 (1.0463, 1.2702)**	1.0145 (0.8890, 1.1578)	**1.2272 (1.0498, 1.4346)**
Lag4	0.9460 (0.8920, 1.0032)	1.0584 (0.9942, 1.1267)	**1.1463 (1.0567, 1.2435)**	0.9386 (0.8404, 1.0483)	**1.2295 (1.0792, 1.4008)**
Lag5	1.0097 (0.9375, 1.0876)	1.0566 (0.9763, 1.1435)	1.0733 (0.9683, 1.1898)	0.9057 (0.7874, 1.0419)	1.0758 (0.9112, 1.2702)

*Combined gender and age groups. Bold indicates p-value <0.05 at 95% Confidence Intervals.

Table S3. Adjusted relative risk of association by lag days (0-5) between daily CVD and daily levels of $PM_{2.5}$ by gender during the study period: (a) Makro and (b) KU sites.

(a)	**Female**				
	HTN	**IHD**	**MI**	**CHF**	**Arrhythmias**
Lag0	0.9891 (0.9605, 1.0187)	**1.0374 (1.0050, 1.0710)**	1.0019 (0.9568, 1.0491)	1.0047 (0.9560, 1.0559)	0.9438 (0.8615, 1.0339)
Lag1	1.0076 (0.9538, 1.0644)	1.0498 (0.9868, 1.1169)	1.0009 (0.9233, 1.0851)	1.0390 (0.9455, 1.1417)	1.1127 (0.9423, 1.3138)
Lag2	1.0002 (0.9566, 1.0458)	1.0480 (0.9970, 1.1017)	0.9485 (0.8877, 1.0135)	0.9906 (0.9175, 1.0694)	1.0724 (0.9394, 1.2242)
Lag3	**1.0353 (1.0052, 1.0662)**	1.0088 (0.9760, 1.0427)	0.9866 (0.9440, 1.0311)	0.9834 (0.9353, 1.0340)	0.9389 (0.8602, 1.0247)
Lag4	1.0099 (0.9109, 1.1197)	1.0185 (0.9052, 1.1460)	0.8822 (0.7563, 1.0290)	0.8948 (0.7481, 1.0702)	0.7907 (0.5729, 1.0914)
Lag5	0.9845 (0.9116, 1.0631)	**1.1223 (1.0288, 1.2242)**	0.9894 (0.8837, 1.1076)	0.9761 (0.8551, 1.1141)	**1.4411 (1.1410, 1.8201)**
	Male				
Lag0	**0.9502 (0.9184, 0.9830)**	1.0189 (0.9892, 1.0494)	0.9910 (0.9537, 1.0298)	**1.0733 (1.0202, 1.1291)**	0.9603 (0.8809, 1.0469)
Lag1	0.9703 (0.9150, 1.0290)	1.0503 (0.9985, 1.1047)	1.0468 (0.9843, 1.1133)	1.0244 (0.9384, 1.1182)	1.0814 (0.9476, 1.2340)
Lag2	1.0338 (0.9813, 1.0890)	1.0350 (0.9892, 1.0829)	**1.0712 (1.0136, 1.1321)**	0.9480 (0.8763, 1.0256)	**1.1487 (1.0212, 1.2922)**
Lag3	**1.0537 (1.0175, 1.0913)**	0.9877 (0.9579, 1.0185)	1.0098 (0.9725, 1.0486)	0.9876 (0.9371, 1.0408)	**1.0886 (1.0058, 1.1782)**
Lag4	**1.1493 (1.0252, 1.2884)**	1.0140 (0.9184, 1.1195)	1.0211 (0.9043, 1.1530)	0.9083 (0.7652, 1.0783)	**1.3325 (1.0315, 1.7214)**
Lag5	**0.8874 (0.8070, 0.9758)**	1.0324 (0.9513, 1.1203)	**1.1649 (1.0547, 1.2867)**	0.9627 (0.8356, 1.1092)	**1.5009 (1.2150, 1.8541)**
(b)	**Female**				
Lag0	**1.0335 (1.0114, 1.0562)**	**1.0359 (1.0107, 1.0618)**	1.0208 (0.9826, 1.0605)	1.0211 (0.9798, 1.0641)	1.0344 (0.9598, 1.1149)
Lag1	1.0146 (0.9952, 1.0344)	1.0048 (0.9829, 1.0272)	1.0270 (0.9926, 1.0625)	1.0299 (0.9927, 1.0685)	1.0573 (0.9889, 1.1304)
Lag2	**0.9724 (0.9550, 0.9902)**	1.0063 (0.9858, 1.0272)	**0.9571 (0.9271, 0.9881)**	0.9800 (0.9468, 1.0143)	**1.1174 (1.0498, 1.1893)**
Lag3	0.9929 (0.9709, 1.0154)	1.0218 (0.9960, 1.0482)	1.0064 (0.9674, 1.0469)	0.9662 (0.9257, 1.0084)	1.0617 (0.9825, 1.1472)
Lag4	0.9711 (0.9180, 1.0273)	1.0628 (0.9985, 1.1313)	0.9928 (0.8876, 1.1104)	**1.1335 (1.0327, 1.2441)**	0.9855 (0.7579, 1.2813)
Lag5	1.0440 (0.9969, 1.0933)	1.00130 (0.9510, 1.0544)	1.0520 (0.9600, 1.1527)	**1.0938 (1.0132, 1.1809)**	1.0609 (0.8566, 1.3138)
	Male				
Lag0	0.9857 (0.9598, 1.0122)	1.0130 (0.9891, 1.0375)	1.0007 (0.9700, 1.0325)	0.9824 (0.9430, 1.0235)	1.0518 (0.9730, 1.1368)
Lag1	1.0173 (0.9942, 1.0410)	**1.0238 (1.0028, 1.0452)**	1.0116 (0.9846, 1.0393)	1.0198 (0.9841, 1.0567)	**1.0789 (1.0086, 1.1541)**
Lag2	1.0132 (0.9917, 1.0351)	1.0113 (0.9920, 1.0310)	0.9812 (0.9568, 1.0063)	1.0189 (0.9858, 1.0532)	**1.1463 (1.0766, 1.2205)**
Lag3	**1.0403 (1.0123, 1.0691)**	1.0247 (0.9997, 1.0503)	**1.0524 (1.0191, 1.0868)**	**1.0443 (1.0011, 1.0893)**	1.0515 (0.9704, 1.1393)
Lag4	0.9792 (0.9223, 1.0396)	1.0113 (0.9573, 1.0684)	1.0091 (0.9359, 1.0880)	1.0919 (0.9937, 1.1999)	1.1197 (0.9540, 1.3143)
Lag5	1.0384 (0.9834, 1.0965)	1.0370 (0.9865, 1.0902)	**1.1153 (1.0417, 1.1940)**	1.0788 (0.9901, 1.1755)	**1.2593 (1.0902, 1.4546)**

* Bold indicates p-value <0.05 at 95% Confidence Intervals.

Table S4. Adjusted relative risk of association by lag days (0-5) between daily CVD and daily levels of $PM_{2.5}$ by gender during the study period: (a) Keamari and (b) Malir sites.

(a)	**Female**				
	HTN	**IHD**	**MI**	**CHF**	**Arrhythmias**
Lag0	0.9856 (0.7846, 1.2383)	0.9669 (0.7479, 1.2500)	0.9916 (0.7223, 1.3612)	1.0374 (0.7064, 1.5236)	0.7851 (0.4626, 1.3324)
Lag1	**1.0940 (1.0411, 1.1496)**	0.9747 (0.9175, 1.0355)	1.0460 (0.9631, 1.1360)	1.0330 (0.9378, 1.1378)	**0.8300 (0.7041, 0.9785)**
Lag2	0.9146 (0.7427, 1.1263)	1.0352 (0.8194, 1.3078)	**1.4126 (1.0652, 1.8735)**	0.9847 (0.6954, 1.3944)	1.5823 (0.9801, 2.5544)
Lag3	0.9783 (0.9306, 1.0284)	0.9496 (0.8937, 1.0091)	0.9841 (0.9053, 1.0697)	1.0090 (0.9150, 1.1127)	1.0350 (0.8781, 1.2200)
Lag4	1.0212 (0.9688, 1.0764)	1.0091 (0.9467, 1.0756)	0.9400 (0.8609, 1.0263)	**1.1284 (1.0182, 1.2506)**	0.8644 (0.7272, 1.0276)
Lag5	0.9932 (0.9446, 1.0442)	**0.9360 (0.8806, 0.9948)**	0.9310 (0.8561, 1.0126)	1.0174 (0.9220, 1.1228)	0.8564 (0.7261, 1.0101)
	Male				
Lag0	0.9768 (0.7992, 1.1938)	0.8216 (0.6513, 1.0365)	1.0045 (0.7606, 1.3265)	1.0093 (0.6643, 1.5336)	0.7957 (0.5632, 1.1240)
Lag1	**0.9259 (0.8744, 0.9803)**	1.0159 (0.9559, 1.0797)	0.9842 (0.9130, 1.0611)	0.9097 (0.8197, 1.0097)	**0.8069 (0.6955, 0.9362)**
Lag2	0.8752 (0.7134, 1.0737)	0.8114 (0.6393, 1.0299)	0.9674 (0.7295, 1.2829)	1.1984 (0.7848, 1.8301)	0.8812 (0.6169, 1.2585)
Lag3	**1.0689 (1.0067, 1.1349)**	0.9742 (0.9141, 1.0383)	0.9939 (0.9189, 1.0750)	0.9620 (0.8627, 1.0727)	0.9617 (0.8223, 1.1247)
Lag4	0.9929 (0.9384, 1.0505)	1.0284 (0.9685, 1.0920)	1.0741 (0.9976, 1.1564)	1.0093 (0.9109, 1.1183)	1.0151 (0.8759, 1.1766)
Lag5	1.0398 (0.9862, 1.0964)	**1.0579 (1.0000, 1.1193)**	1.0044 (0.9371, 1.0766)	1.0393 (0.9439, 1.1442)	0.9768 (0.8504, 1.1218)
(b)	**Female**				
Lag0	**0.9510 (0.9295, 0.9730)**	1.0281 (0.9982, 1.0589)	1.0355 (0.9925, 1.0804)	**1.0731 (1.0210, 1.1279)**	1.0202 (0.9510, 1.0943)
Lag1	**0.9508 (0.9271, 0.9751)**	**1.0428 (1.0094, 1.0773)**	**1.0720 (1.0230, 1.1234)**	**1.0646 (1.0075, 1.1248)**	0.9983 (0.9241, 1.0785)
Lag2	**0.9487 (0.9262, 0.9717)**	**1.0406 (1.0089, 1.0733)**	1.0336 (0.9886, 1.0806)	1.0199 (0.9678, 1.0747)	0.9514 (0.8841, 1.0238)
Lag3	0.9783 (0.9565, 1.0005)	**1.0407 (1.0109, 1.0714)**	1.0118 (0.9705, 1.0548)	1.0218 (0.9726, 1.0734)	0.9788 (0.9138, 1.0483)
Lag4	**0.9618 (0.9391, 0.9851)**	**1.0340 (1.0025, 1.0664)**	0.9834 (0.9408, 1.0280)	0.9920 (0.9414, 1.0454)	0.9484 (0.8816, 1.0202)
Lag5	**0.9627 (0.9427, 0.9831)**	1.0264 (0.9989, 1.0546)	0.9772 (0.9399, 1.0160)	1.0248 (0.9787, 1.0730)	0.9987 (0.9368, 1.0647)
	Male				
Lag0	0.9966 (0.9733, 1.0204)	**1.0466 (1.0198, 1.0741)**	1.0308 (0.9968, 1.0659)	1.0205 (0.9761, 1.0668)	1.0480 (0.9795, 1.1213)
Lag1	1.0000 (0.9745, 1.0262)	**1.0418 (1.0127, 1.0718)**	1.0365 (0.9992, 1.0751)	**1.0552 (1.0052, 1.1077)**	1.0445 (0.9702, 1.1245)
Lag2	0.9875 (0.9631, 1.0127)	**1.0341 (1.0059, 1.0630)**	**1.0379 (1.0017, 1.0755)**	1.0465 (0.9983, 1.0970)	0.9884 (0.9199, 1.0620)
Lag3	0.9917 (0.9688, 1.0153)	1.0044 (0.9788, 1.0307)	1.0263 (0.9928, 1.0609)	0.9986 (0.9556, 1.0436)	**1.0711 (1.0015, 1.1455)**
Lag4	0.9812 (0.9572, 1.0057)	1.0115 (0.9844, 1.0394)	1.0080 (0.9734, 1.0440)	0.9565 (0.9131, 1.0020)	1.0345 (0.9637, 1.1106)
Lag5	0.9870 (0.9659, 1.0085)	1.0145 (0.9906, 1.0389)	1.0060 (0.9757, 1.0372)	0.9829 (0.9438, 1.0237)	1.0582 (0.9945, 1.1259)

* Bold indicates p-value <0.05 at 95% Confidence Intervals.

Table S5. Adjusted relative risk of association by lag days (0-5) between daily CVD and daily levels of $PM_{2.5}$ by age group at the Makro site.

	<40				
	HTN	**IHD**	**MI**	**CHF**	**Arrhythmias**
Lag0	1.0399 (0.9893, 1.0930)	1.0391 (0.9817, 1.0998)	0.9301 (0.8464, 1.0221)	1.0460 (0.9491, 1.1528)	1.0484 (0.9483, 1.1589)
Lag1	0.9962 (0.9017, 1.1006)	1.0046 (0.8999, 1.1215)	0.9296 (0.7690, 1.1237)	0.9851 (0.7845, 1.2371)	1.1371 (0.9804, 1.3190)
Lag2	1.0339 (0.9419, 1.1349)	0.9651 (0.8704, 1.0700)	0.9975 (0.8343, 1.1927)	0.9199 (0.7436, 1.1381)	**1.1987 (1.0429, 1.3779)**
Lag3	**1.0603 (1.0108, 1.1124)**	0.9714 (0.9211, 1.0244)	0.9721 (0.8837, 1.0693)	0.9786 (0.8803, 1.0877)	1.0561 (0.9825, 1.1352)
Lag4	**1.0822 (1.0304, 1.1367)**	0.9939 (0.9397, 1.0512)	1.0386 (0.9472, 1.1388)	**1.1257 (1.0227, 1.2392)**	1.0211 (0.9259, 1.1261)
Lag5	0.9738 (0.9285, 1.0213)	0.9868 (0.9349, 1.0417)	0.9713 (0.8888, 1.0616)	1.0537 (0.9602, 1.1563)	1.0533 (0.9585, 1.1573)
	40-60				
Lag0	0.9740 (0.9461, 1.0029)	**1.0316 (1.0032, 1.0609)**	1.0055 (0.9681, 1.0444)	1.0138 (0.9680, 1.0619)	**0.8717 (0.7907, 0.9609)**
Lag1	0.9987 (0.9485, 1.0516)	**1.0612 (1.0089, 1.1161)**	**1.0706 (1.0066, 1.1387)**	1.0656 (0.9867, 1.1507)	0.9454 (0.7904, 1.1309)
Lag2	1.0241 (0.9802, 1.0699)	1.0420 (0.9982, 1.0878)	1.0400 (0.9867, 1.0961)	0.9827 (0.9201, 1.0495)	0.9665 (0.8314, 1.1235)
Lag3	**1.0381 (1.0069, 1.0702)**	0.9865 (0.9573, 1.0166)	1.0069 (0.9704, 1.0447)	0.9717 (0.9282, 1.0171)	0.9939 (0.8957, 1.1028)
Lag4	**1.0403 (1.0130, 1.0683)**	**1.0283 (1.0024, 1.0549)**	1.0217 (0.9869, 1.0577)	1.0119 (0.9698, 1.0558)	1.0043 (0.9190, 1.0974)
Lag5	0.9874 (0.9620, 1.0134)	**1.0326 (1.0070, 1.0588)**	**1.0597 (1.0243, 1.0963)**	1.0375 (0.9952, 1.0817)	1.0347 (0.9487, 1.1286)
	>60				
Lag0	**0.9097 (0.8672, 0.9543)**	1.0116 (0.9703, 1.0546)	0.9907 (0.9392, 1.0449)	**1.0843 (1.0136, 1.1599)**	0.9906 (0.8625, 1.1379)
Lag1	0.9663 (0.8907, 1.0484)	1.0537 (0.9806, 1.1322)	0.9759 (0.8946, 1.0646)	0.9545 (0.8362, 1.0896)	0.9036 (0.5467, 1.4934)
Lag2	0.9767 (0.9150, 1.0426)	1.0530 (0.9947, 1.1147)	0.9916 (0.9241, 1.0641)	0.9373 (0.8435, 1.0416)	0.7585 (0.5009, 1.1487)
Lag3	1.0412 (0.9938, 1.0908)	1.0345 (0.9926, 1.0783)	1.0091 (0.9588, 1.0620)	1.0313 (0.9578, 1.1104)	0.9513 (0.6996, 1.2936)
Lag4	0.9721 (0.9317, 1.0142)	0.9887 (0.9527, 1.0261)	0.9790 (0.9336, 1.0267)	0.9916 (0.9334, 1.0535)	1.0915 (0.9664, 1.2328)
Lag5	1.0009 (0.9599, 1.0436)	1.0260 (0.9891, 1.0642)	1.0221 (0.9753, 1.0711)	1.0210 (0.9617, 1.0839)	1.0766 (0.9552, 1.2135)

* Bold indicates p-value <0.05 at 95% Confidence Intervals.

Table S6. Adjusted relative risk of association by lag days (0-5) between daily CVD and daily levels of $PM_{2.5}$ by age group at the KU site.

	<40				
	HTN	**IHD**	**MI**	**CHF**	**Arrhythmias**
Lag0	**1.0953 (1.0527, 1.1397)**	**1.0837 (1.0357, 1.1338)**	1.0617 (0.9725, 1.1592)	1.0490 (0.9590, 1.1473)	1.0918 (0.9947, 1.1984)
Lag1	**1.0536 (1.0163, 1.0923)**	**1.0428 (1.0007, 1.0866)**	1.0774 (0.9945, 1.1672)	1.0620 (0.9790, 1.1521)	**1.1218 (1.0308, 1.2208)**
Lag2	0.9509 (0.8218, 1.1002)	0.9903 (0.8444, 1.1614)	0.9012 (0.6711, 1.2101)	1.1970 (0.9009, 1.5905)	**3.0662 (1.9289, 4.8743)**
Lag3	0.9588 (0.9183, 1.0012)	0.9755 (0.9285, 1.0248)	0.9409 (0.8546, 1.0359)	**0.8976 (0.8138, 0.9900)**	**1.1393 (1.0294, 1.2610)**
Lag4	0.9827 (0.9398, 1.0275)	1.0003 (0.9507, 1.0524)	0.9547 (0.8642, 1.0547)	0.9556 (0.8635, 1.0576)	1.0139 (0.9131, 1.1258)
Lag5	0.9952 (0.9508, 1.0417)	1.0264 (0.9743, 1.0813)	0.9342 (0.8436, 1.0345)	0.9927 (0.8949, 1.1011)	1.0064 (0.9032, 1.1214)
	40-60				
Lag0	1.0005 (0.9791, 1.0225)	1.0168 (0.9948, 1.0393)	1.0151 (0.9845, 1.0465)	1.0055 (0.9688, 1.0435)	0.9649 (0.8897, 1.0465)
Lag1	**1.0234 (1.0044, 1.0427)**	**1.0250 (1.0058, 1.0445)**	1.0052 (0.9790, 1.0320)	1.0047 (0.9730, 1.0375)	1.0399 (0.9694, 1.1156)
Lag2	1.0503 (0.9753, 1.1311)	**1.1350 (1.0539, 1.2224)**	0.9658 (0.8640, 1.0796)	**1.1818 (1.0452, 1.3361)**	**0.7363 (0.5777, 0.9385)**
Lag3	**1.0265 (1.0043, 1.0493)**	**1.0381 (1.0154, 1.0613)**	**1.0395 (1.0079, 1.0721)**	1.0138 (0.9764, 1.0526)	1.0345 (0.9527, 1.1232)
Lag4	**1.0281 (1.0048, 1.0519)**	0.9988 (0.9759, 1.0222)	**1.0431 (1.0099, 1.0774)**	1.0100 (0.9710, 1.0506)	0.9465 (0.8679, 1.0321)
Lag5	1.0066 (0.9808, 1.0331)	**0.9677 (0.9425, 0.9936)**	1.0367 (0.9993, 1.0755)	1.0178 (0.9733, 1.0643)	**1.1077 (1.0044, 1.2216)**
	>60				
Lag0	0.9819 (0.9472, 1.0178)	1.0242 (0.9899, 1.059)8	0.9963 (0.9541, 1.0404)	0.9752 (0.9233, 1.0301)	**1.1751 (1.0446 1.3219)**
Lag1	0.9704 (0.9397, 1.0021)	0.9858 (0.9561, 1.0164)	1.0181 (0.9794, 1.0582)	1.0426 (0.9926, 1.0952)	1.0484 (0.9436, 1.1649)
Lag2	0.9135 (0.7991, 1.0443)	1.0069 (0.8804, 1.1516)	1.0118 (0.8435, 1.2138)	1.0007 (0.8243, 1.2148)	**0.4898 (0.2774, 0.8647)**
Lag3	1.0126 (0.9757, 1.0509)	1.0241 (0.9885, 1.0611)	**1.0635 (1.0169, 1.1122)**	1.0488 (0.9907, 1.1104)	**0.8788 (0.7776, 0.9932)**
Lag4	1.0028 (0.9665, 1.0406)	0.9944 (0.9599, 1.0301)	1.0073 (0.9633, 1.0533)	0.9595 (0.9060, 1.0161)	1.0325 (0.9141, 1.1662)
Lag5	1.0109 (0.9712, 1.0522)	1.0172 (0.9790, 1.0568)	**1.0732 (1.0225, 1.1264)**	**0.9226 (0.8670, 0.9818)**	**1.3154 (1.1539, 1.4996)**

* Bold indicates p-value <0.05 at 95% Confidence Intervals.

Table S7. Adjusted relative risk of association by lag days (0-5) between daily CVD and daily levels of $PM_{2.5}$ by age group at the Keamari site.

	<40				
	HTN	**IHD**	**MI**	**CHF**	**Arrhythmias**
Lag0	0.9667 (0.8832, 1.0581)	0.9059 (0.8044, 1.0203)	1.1519 (0.9626, 1.3784)	1.0208 (0.8038, 1.2964)	**0.7228 (0.5885, 0.8878)**
Lag1	**1.0998 (1.0063, 1.2020)**	0.9734 (0.8657, 1.0945)	1.0467 (0.8786, 1.2469)	**1.2849 (1.0195, 1.6195)**	0.8359 (0.6841, 1.0213)
Lag2	0.9451 (0.8634, 1.0346)	**0.8217 (0.7295, 0.9256)**	1.0945 (0.9163, 1.3074)	1.0915 (0.8623, 1.3816)	**0.8132 (0.6632, 0.9970)**
Lag3	1.0584 (0.9584, 1.1689)	**0.8597 (0.7543, 0.9798)**	**1.2830 (1.0544, 1.5612)**	0.9978 (0.7713, 1.2908)	0.9613 (0.7676, 1.2039)
Lag4	1.1191 (0.9965, 1.2569)	1.0068 (0.8646, 1.1724)	0.7953 (0.6323, 1.0002)	**1.4395 (1.0663, 1.9433)**	1.2007 (0.9240, 1.5602)
Lag5	1.0506 (0.9510, 1.1606)	0.9772 (0.8575, 1.1136)	**0.7851 (0.6438, 0.9573)**	0.9624 (0.7436, 1.2455)	1.0621 (0.8483, 1.3298)
	40-60				
Lag0	1.0090 (0.9634, 1.0567)	**0.9439 (0.8954, 0.9951)**	0.9615 (0.8978, 1.0298)	1.0314 (0.9440, 1.1268)	0.8702 (0.7559, 1.0018)
Lag1	0.9715 (0.9263, 1.0188)	0.9606 (0.9097, 1.0144)	0.9557 (0.8900, 1.0262)	0.9280 (0.8467, 1.0170)	**0.7293 (0.6309, 0.8431)**
Lag2	0.9732 (0.9305, 1.0179)	1.0043 (0.9540, 1.0572)	0.9982 (0.9333, 1.0676)	0.9367 (0.8588, 1.0217)	**0.8582 (0.7487, 0.9837)**
Lag3	1.0009 (0.9530, 1.0511)	0.9613 (0.9090, 1.0167)	0.9778 (0.9088, 1.0521)	0.9596 (0.8730, 1.0547)	0.9711 (0.8363, 1.1277)
Lag4	0.9515 (0.9042, 1.0013)	1.0285 (0.9701, 1.0904)	1.0538 (0.9763, 1.1374)	1.0809 (0.9795, 1.1929)	0.8945 (0.7653, 1.0456)
Lag5	0.9671 (0.9218, 1.0145)	1.0491 (0.9930, 1.1084)	1.0175 (0.9470, 1.0934)	**1.1200 (1.0209, 1.2287)**	0.9026 (0.7794, 1.0452)
	>60				
Lag0	1.0420 (0.9656, 1.1245)	**1.1702 (1.0813, 1.2664)**	1.0251 (0.9329, 1.1262)	1.1095 (0.9843, 1.2507)	1.0848 (0.8427, 1.3963)
Lag1	1.0412 (0.9593, 1.1300)	**1.1222 (1.0307, 1.2219)**	**1.1538 (1.0422, 1.2774)**	1.0111 (0.8882, 1.1510)	1.2152 (0.9268, 1.5934)
Lag2	1.0225 (0.9475, 1.1035)	0.9433 (0.8718, 1.0208)	1.0905 (0.9923, 1.1983)	1.0984 (0.9736, 1.2391)	1.0193 (0.7932, 1.3099)
Lag3	0.9971 (0.9191, 1.0818)	1.0237 (0.9411, 1.1137)	0.9824 (0.8881, 1.0867)	1.0359 (0.9108, 1.1782)	1.2149 (0.9309, 1.5857)
Lag4	**0.8943 (0.8193, 0.9761)**	**1.1603 (1.0600, 1.2701)**	1.0570 (0.9483, 1.1781)	1.0089 (0.8786, 1.1586)	0.9101 (0.6830, 1.2126)
Lag5	1.0526 (0.9688, 1.1438)	1.0018 (0.9194, 1.0916)	1.0004 (0.9025, 1.1089)	0.9809 (0.8602, 1.1185)	0.9822 (0.7481, 1.2895)

*. Bold indicates p-value <0.05 at 95% Confidence Intervals.

Table S8. Adjusted relative risk of association by lag days (0-5) between daily CVD and daily levels of $PM_{2.5}$ by age group at the Malir site.

	<40				
	HTN	**IHD**	**MI**	**CHF**	**Arrhythmias**
Lag0	**0.9487 (0.9149, 0.9838)**	0.9870 (0.9382, 1.0383)	**0.9232 (0.8573, 0.9941)**	0.9887 (0.8944, 1.0929)	0.9712 (0.8871, 1.0633)
Lag1	0.9722 (0.9319, 1.0144)	1.0059 (0.9480, 1.0673)	**0.9065 (0.8310, 0.9889)**	1.0610 (0.9425, 1.1943)	0.9786 (0.8806, 1.0874)
Lag2	0.9792 (0.9365, 1.0239)	1.0289 (0.9667, 1.0951)	0.9350 (0.8531, 1.0247)	1.1078 (0.9783, 1.2545)	0.9626 (0.8616, 1.0755)
Lag3	**0.9498 (0.9108, 0.9904)**	1.0044 (0.9471, 1.0652)	**0.8677 (0.7962, 0.9456)**	1.0495 (0.9327, 1.1810)	1.0034 (0.9038, 1.1139)
Lag4	**0.9356 (0.8948, 0.9782)**	1.0076 (0.9465, 1.0727)	**0.8929 (0.8149, 0.9784)**	0.9831 (0.8669, 1.1149)	0.9261 (0.8284, 1.0354)
Lag5	**0.9419 (0.9056, 0.9798)**	0.9884 (0.9353, 1.0445)	**0.9064 (0.8361, 0.9825)**	0.9462 (0.8467, 1.0575)	0.9735 (0.8824, 1.0740)
	40-60				
Lag0	**0.9742 (0.9564, 0.9924)**	1.0028 (0.9813, 1.0249)	1.0076 (0.9787, 1.0374)	1.0207 (0.9835, 1.0592)	1.0212 (0.9610, 1.0852)
Lag1	**0.9750 (0.9550, 0.9955)**	1.0112 (0.9869, 1.0362)	1.0171 (0.9843, 1.0509)	1.0282 (0.9862, 1.0719)	0.9928 (0.9273, 1.0631)
Lag2	**0.9636 (0.9426, 0.9851)**	**1.0435 (1.0169, 1.0708)**	1.0331 (0.9978, 1.0696)	1.0368 (0.9919, 1.0838)	0.9557 (0.8886, 1.0279)
Lag3	0.9854 (0.9652, 1.0060)	**1.0282 (1.0035, 1.0536)**	1.0112 (0.9787, 1.0447)	1.0244 (0.9827, 1.0680)	1.0228 (0.9556, 1.0946)
Lag4	0.9791 (0.9577, 1.0011)	1.0198 (0.9935, 1.0467)	0.9926 (0.9584, 1.0279)	1.0060 (0.9621, 1.0519)	1.0187 (0.9472, 1.0957)
Lag5	**0.9806 (0.9618, 0.9998)**	**1.0281 (1.0049, 1.0518)**	0.9876 (0.9578, 1.0183)	1.0252 (0.9860, 1.0660)	1.0644 (0.9987, 1.1344)
	>60				
Lag0	1.0052 (0.9763, 1.0349)	1.0111 (0.9790, 1.0442)	1.0251 (0.9826, 1.0694)	1.0306 (0.9785, 1.0854)	0.9832 (0.9091, 1.0633)
Lag1	1.0031 (0.9707, 1.0366)	1.0004 (0.9646, 1.0375)	**1.0542 (1.0051, 1.1058)**	1.0462 (0.9868, 1.1092)	0.9843 (0.9014, 1.0748)
Lag2	0.9707 (0.9360, 1.0067)	1.0172 (0.9770, 1.0590)	**1.0607 (1.0063, 1.1181)**	1.0079 (0.9447, 1.0753)	0.9946 (0.9025, 1.0960)
Lag3	1.0021 (0.9690, 1.0364)	1.0048 (0.9680, 1.0431)	**1.0903 (1.0387, 1.1445)**	0.9745 (0.9177, 1.0347)	1.0382 (0.9485, 1.1364)
Lag4	0.9679 (0.9353, 1.0016)	1.0137 (0.9758, 1.0530)	1.0397 (0.9894, 1.0924)	**0.9043 (0.8506, 0.9615)**	0.9875 (0.9005, 1.0829)
Lag5	0.9756 (0.9465, 1.0056)	1.0095 (0.9761, 1.0440)	1.0368 (0.9925, 1.0832)	0.9710 (0.9199, 1.0250)	1.0054 (0.9268, 1.0907)

* Bold indicates p-value <0.05 at 95% Confidence Intervals.

Table S9. Seasonal relative risk estimates of daily CVD associated with $PM_{2.5}$ at the Makro, KU, Keamari, and Malir sites.

	Makro				
	HTN	**IHD**	**MI**	**CHF**	**Arrhythmias**
Fall	0.9840 (0.9582, 1.0106)	1.0137 (0.9876, 1.0405)	0.9878 (0.9557, 1.0209)	1.0211 (0.9792, 1.0649)	1.0381 (0.9653, 1.1165)
Winter	**0.9666 (0.9421, 0.9917)**	1.0179 (0.9924, 1.0439)	0.9935 (0.9574, 1.0310)	0.9970 (0.9542, 1.0418)	1.0302 (0.9544, 1.1120)
Spring	1.0107 (0.9902, 1.0317)	1.0155 (0.9943, 1.0372)	0.9885 (0.9592, 1.0186)	**1.0722 (1.0351, 1.1108)**	**0.9086 (0.8554, 0.9651)**
Summer	0.9660 (0.9239, 1.0100)	1.0153 (0.9721, 1.0603)	0.9834 (0.9249, 1.0457)	**1.2023 (1.1151, 1.2963)**	0.9980 (0.8212, 1.2127)
	KU				
Fall	0.9936 (0.9702, 1.0176)	**1.0261 (1.0024, 1.0505)**	1.0032 (0.9741, 1.0332)	1.0272 (0.9894, 1.0665)	1.0204 (0.9553, 1.0899)
Winter	**0.9741 (0.9576, 0.9908)**	0.9925 (0.9761, 1.0092)	0.9817 (0.9580, 1.0060)	**0.9565 (0.9293, 0.9845)**	0.9885 (0.9397, 1.0398)
Spring	1.0282 (0.9967, 1.0607)	**1.0475 (1.0145, 1.0816)**	**0.9487 (0.9065, 0.9930)**	1.0299 (0.9762, 1.0865)	**1.1484 (1.0469, 1.2599)**
Summer	**1.0306 (1.0111, 1.0505)**	0.9905 (0.9722, 1.0092)	1.0027 (0.9767, 1.0294)	0.9857 (0.9540, 1.0184)	1.0086 (0.9285, 1.0957)
	Keamari				
Fall	**0.9581 (0.9254, 0.9920)**	1.0025 (0.9663, 1.0400)	1.0210 (0.9738, 1.0705)	0.9809 (0.9223, 1.0432)	1.0311 (0.9439, 1.1264)
Winter	**0.9384 (0.8997, 0.9787)**	0.9811 (0.9336, 1.0310)	0.9718 (0.9082, 1.0397)	0.9931 (0.9155, 1.0773)	**0.8615 (0.7523, 0.9866)**
Spring	**1.0438 (1.0191, 1.0691)**	**1.0486 (1.0189, 1.0792)**	**1.0476 (1.0088, 1.0879)**	1.0010 (0.9508, 1.0539)	1.0568 (0.9885, 1.1298)
Summer	1.0550 (0.9922, 1.1218)	1.0051 (0.9247, 1.0924)	0.9235 (0.8253, 1.0332)	0.9968 (0.8727, 1.1385)	0.7969 (0.6141, 1.0342)
	Malir				
Fall	0.9881 (0.9678, 1.0087)	0.9919 (0.9705, 1.0139)	1.0010 (0.9731, 1.0297)	0.9916 (0.9558, 1.0287)	0.9916 (0.9407, 1.0453)
Winter	0.9966 (0.9794, 1.0141)	1.0205 (0.9998, 1.0416)	1.0057 (0.9781, 1.0342)	**1.0452 (1.0107, 1.0808)**	1.0165 (0.9618, 1.0745)
Spring	0.9925 (0.9654, 1.0204)	**1.0420 (1.0081, 1.0770)**	1.0342 (0.9903, 1.0801)	0.9819 (0.9258, 1.0413)	0.9952 (0.9210, 1.0753)
Summer	0.9928 (0.9673, 1.0190)	0.9839 (0.9495, 1.0195)	1.0137 (0.9658, 1.0638)	0.9781 (0.9239, 1.0355)	1.0131 (0.9079, 1.1305)

* Bold indicates p-value <0.05 at 95% Confidence Intervals.