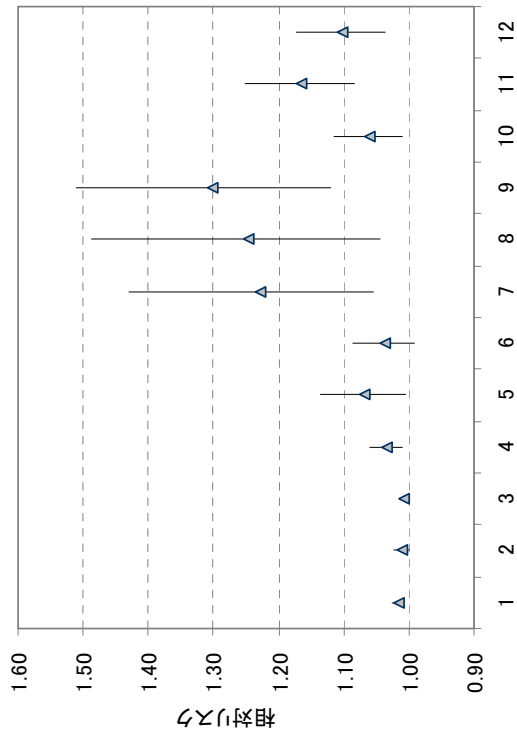


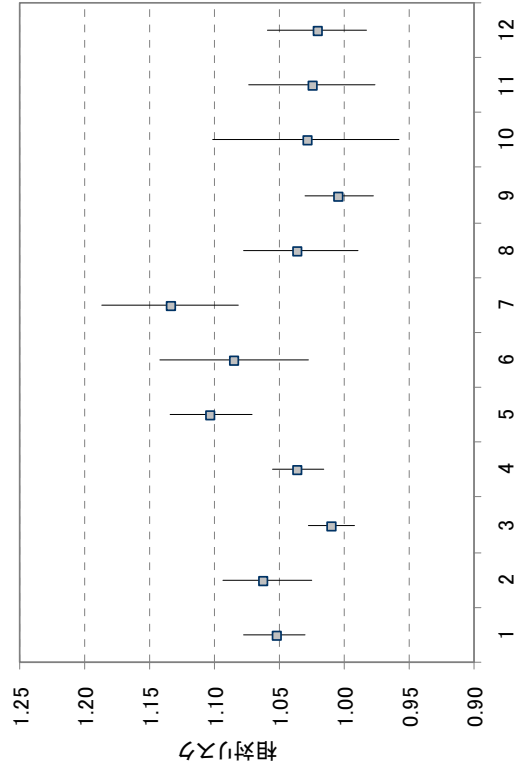
番号	文献	地域	解析モデル	備考	番号	文献	地域	解析モデル	備考
1	Braga, 2000	5 US cities	GAM	adjusted	17	Schwartz, 2003	10 US cities	GAM-str	
2	Klemm, 2003	6 US cities	GAM-str		18	Zanobetti, 2000	4 US cities	Poisson reg.	Female
3	Samet, 2000	20 US cities	Log-linear		19				Male
4	Dominici, 2000	20 US cities	GAM		20	Burnett, 2003	8 cities (Canada)	GAM-str	
5	Dominici, 2003a	90 US cities	GAM-str		21	Burnett, 2004	12 Canadian cities	natural splines	
6	Dominici, 2003a	90 US cities	GLM/ns		22	Katsouyanni, 1997	12 EU cities	Poisson	
7	Dominici, 2003b	88 US cities	Baysian					autoreg.	
8	Dominici, 2003c	4 US cities	Fourier		23	Ballester, 2002	3 cities (Spain)	GAM	
9	Schwartz, 2004	14 US cities	decomp & Case-crossover		24	Hoek, 2003	The	GAM-str	
10			Poisson reg.		25	Katsouyanni, 2003	21 EU cities	GAM-str	fixed
11	Zeka, 2004	90 US cities	hierarchical		26				random
12	Peng, 2005	100 US cities	Bayesian	summer	27	Zanobetti, 2003a	10 EU cities	GAM-str	
13			Bayesian	all seasons	28			GAM-str	
14	Roberts, 2006	109 US cities	Bayesian		29	Zanobetti, 2003b	10 EU cities	(distributed)	
15	Schwartz, 2003	10 US cities	GAM-str	65+yr				GAM-str	15-64yr
			(distributed)		30			(distributed)	65-74yr
16	Schwartz, 2003	10 US cities	GAM-str	65+yr	31			(distributed)	75+yr
			(distributed)		32	Simpson, 2005	4 Australia cities	(distributed)	meta-analysis

図 6.1(1) 短期曝露影響：死亡 PM₁₀：複数都市（全死亡）



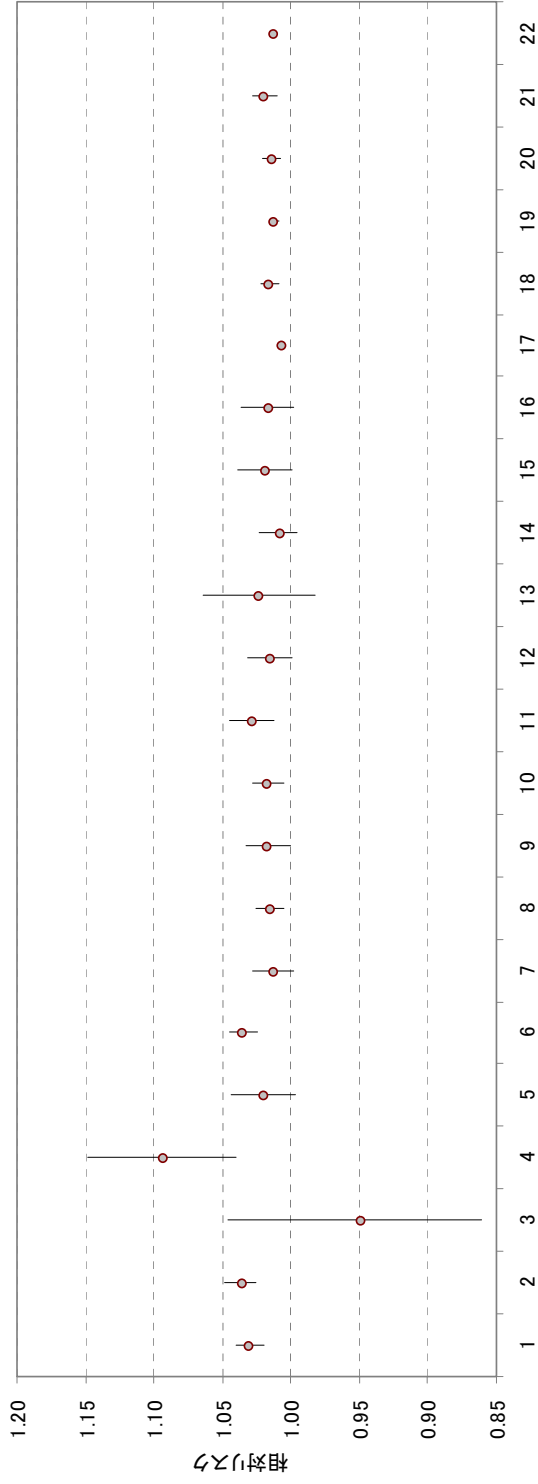
番号	文献	地域	解析モデル	死因	備考
1	Dominici, 2003b	88 US cities	Bayesian	心血管・呼吸器	
2	Dominici, 2003c	4 US cities	Poisson reg.	心血管・呼吸器	
3	Roberts, 2006	109 US cities	Bayesian	心血管・呼吸器	
4	Samet, 2000	20 US cities	Log-linear	心血管・呼吸器	
5	Ballester, 2002	3 cities (Spain)	GAM	呼吸器	15+yr
6	Zanobetti, 2003b	10 EU cities	GAM-str	呼吸器	15+yr
7			GAM-str(distributed)	呼吸器	75+yr
8			GAM-str(distributed)	呼吸器	75+yr
9	Martins, 2004	6 São Paulo regions (Brazil)	GLM	呼吸器	60+yr
10	Hoek, 2003	The Netherlands	GAM-str	COPD	
11	Schwartz, 2003	10 US cities	GAM-str(distributed)	肺炎	
12	Hoek, 2003	The Netherlands	GAM-str	肺炎	

図 6.1(2) 短期曝露影響：死亡 PM₁₀：複数都市（呼吸器系死亡）



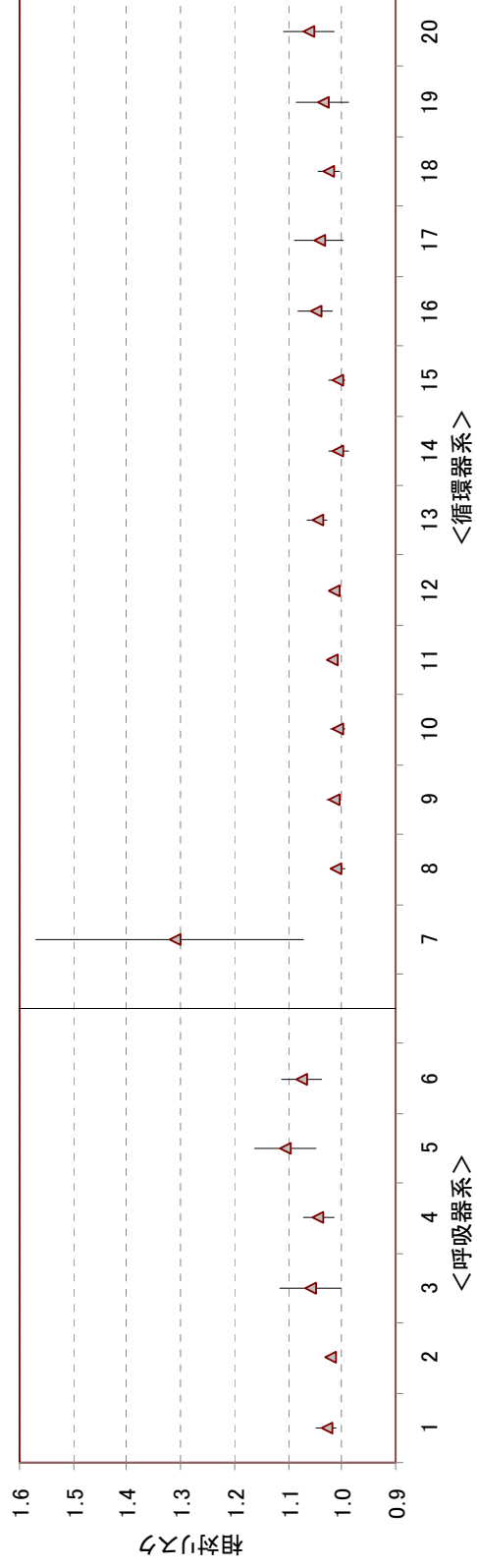
番号	文献	地域	解析モデル	死因	備考
1	Schwartz, 2003	10 US cities	GAM-str(distributed)	CVD	
2	Ballester, 2002	3 cities (Spain)	GAM	CVD	
3	Hoek, 2003	The Netherlands	GAM-str	CVD	
4	Zanobetti, 2003b	10 EU cities	GAM-str	CVD	15+yr
5			GAM-str(distributed)	CVD	15+yr
6			GAM-str(distributed)	CVD	65-74yr
7			GAM-str(distributed)	CVD	75+yr
8	Schwartz, 2003	10 US cities	GAM-str(distributed)	MI	
9	Hoek, 2003	The Netherlands	GAM-str	MI	
10	Hoek, 2003	The Netherlands	GAM-str	arrhythmia	
11	Hoek, 2003	The Netherlands	GAM-str	heart failure	
12	Hoek, 2003	The Netherlands	GAM-str	cerebrovascular	

図 6.1(3) 短期曝露影響：死亡 PM₁₀：複数都市（循環器系死亡）



番号	文献	地域	解析モデル	指標	備考
1	Klemm, 2003	6 US cities	GAM-str	PM _{2.5}	
2			GAM-str	PM _{2.5}	65+yr
3	Schwartz, 2003	6 US cities	GAM-st/p-splines	PM _{2.5}	Dirt
4			GAM-st/p-splines	PM _{2.5}	Traffic
5			GAM-st/p-splines	PM _{2.5}	Coal
6	Schwartz, 2003	6 US Cities	GAM-str	PM _{2.5}	
7	Ostro, 2006	9 California Counties, (CA)	natural splines	PM _{2.5}	all ages
8			penalized splines	PM _{2.5}	all ages
9	Ostro, 2006	9 California Counties, (CA)	natural splines	PM _{2.5}	>65 yr
10			penalized splines	PM _{2.5}	>65 yr
11	Burnett, 2003	8 cities (Canada)	GAM-str	PM _{2.5}	
12	Burnett, 2004	12 Canadian	natural splines	PM _{2.5}	
13	Simpson, 2005	4 Australia cities (Australia)	meta-analysis	PM _{2.5}	
14	Klemm, 2003	6 US cities	GAM-str	PM _{10-2.5}	
15	Burnett, 2003	8 cities (Canada)	GAM-str	PM _{10-2.5}	
16	Burnett, 2004	12 Canadian	natural splines	PM _{10-2.5}	
17	Katsouyanni, 1997	12 EU cities	Poisson autoreg.	BS	
18	Hoek, 2003	entire Netherlands	GAM-str	BS	avg
19	Katsouyanni, 2003	14 EU cities	GAM-str	BS	fixed
20				BS	random
21	Ballester, 2002	7 cities (Spain)	GAM	BS	
22	Omori, 2003	13都市 (日本)	GAM	SPM	65+yr

図 6.1(4) 短期曝露影響：死亡 PM_{2.5}/PM_{10-2.5}/BS：複数都市（全死亡）



番号	文献	地域	解析モデル	死因	指標	備考
1	Ballester, 2002	7 cities (Spain)	GAM	呼吸器	BS	
2	Omori, 2003	13都市 (日本)	GAM	呼吸器	SPM	65+yr
3	Klemm, 2003	6 US cities	GAM-str	COPD	PM _{2.5}	
4	Hoek, 2003	The Netherlands	GAM-str	COPD	BS	
5	Klemm, 2003	6 US cities	GAM-str	肺炎	PM _{2.5}	
6	Hoek, 2003	The Netherlands	GAM-str	肺炎	BS	
<循環器系>						
7	Holloman, 2004	7 North Carolina counties, (NC)	Bayesian	CVD	PM _{2.5}	
8	Ostro, 2006	9 California Counties, (CA)	natural splines	CVD	PM _{2.5}	
9			penalized splines	CVD	PM _{2.5}	
10	Ballester, 2002	7 cities (Spain)	GAM	CVD	BS	
11	Hoek, 2003	entire Netherlands	GAM-str	CVD	BS	
12	Omori, 2003	13都市 (日本)	GAM	CVD	SPM	65+yr
13	Klemm, 2003	6 US cities	GAM-str	IHD	PM _{2.5}	
14	Ostro, 2006	9 California Counties, (CA)	penalized splines	IHD	PM _{2.5}	
15	Hoek, 2003	The Netherlands	GAM-str	MI	BS	
16	Hoek, 2003	The Netherlands	GAM-str	heart failure	BS	
17	Hoek, 2003	The Netherlands	GAM-str	arrhythmia	BS	
18	Hoek, 2003	The Netherlands	GAM-str	cerebrovascula	BS	
19	Yamazaki S, 2007	13都市 (日本)	case-crossover	脳出血	PM _{2.5} (multi-pollutant)	odds, 24h mean, 65+yr
20	Ostro, 2006	9 California Counties, (CA)	penalized splines	Diabetes	PM _{2.5}	

図 6.1(5) 短期曝露影響：死亡 PM_{2.5}/BS/SPM：複数都市（死因別）

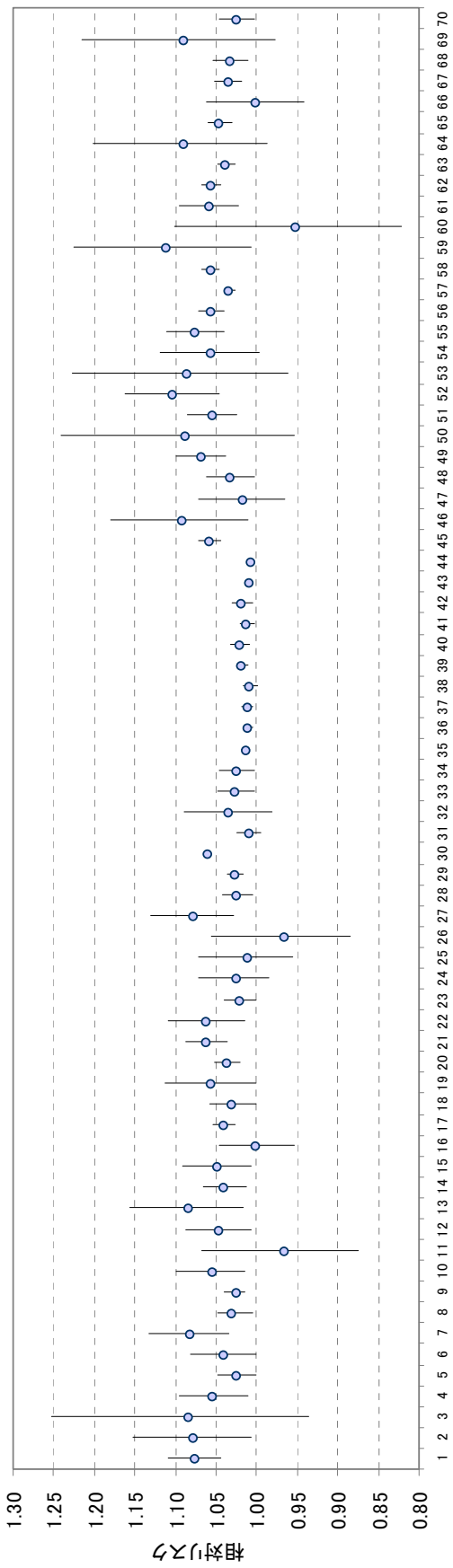


図 6.1(6) 短期曝露影響：死亡 PM₁₀：北米（全死亡）

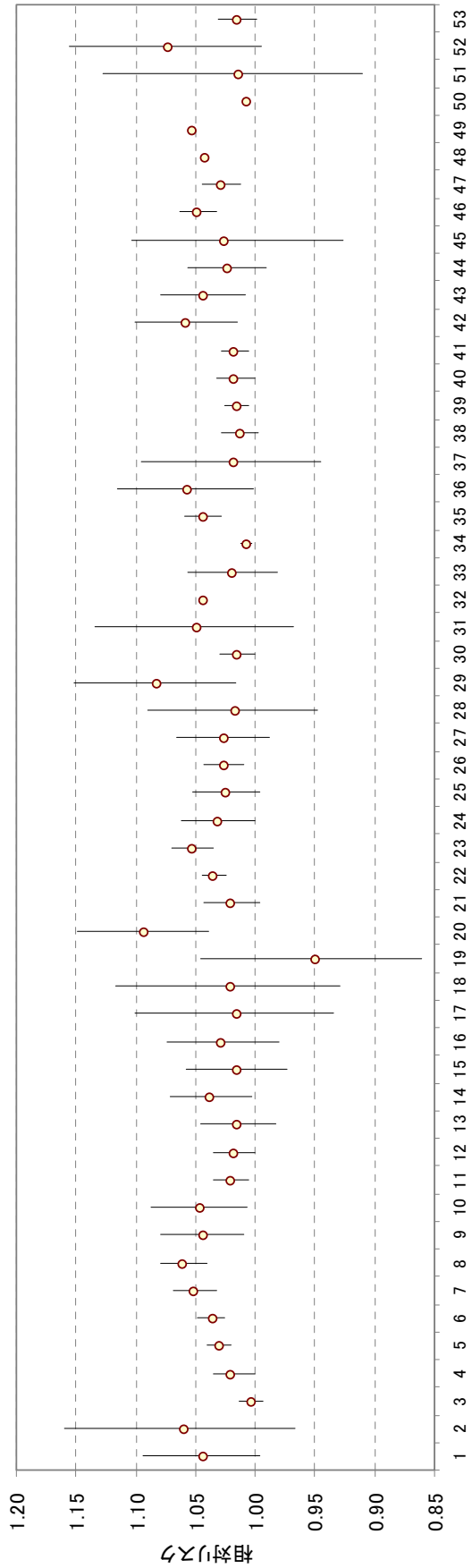


図 6.1(7) 短期曝露影響：死亡 PM_{2.5}：北米（全死亡）

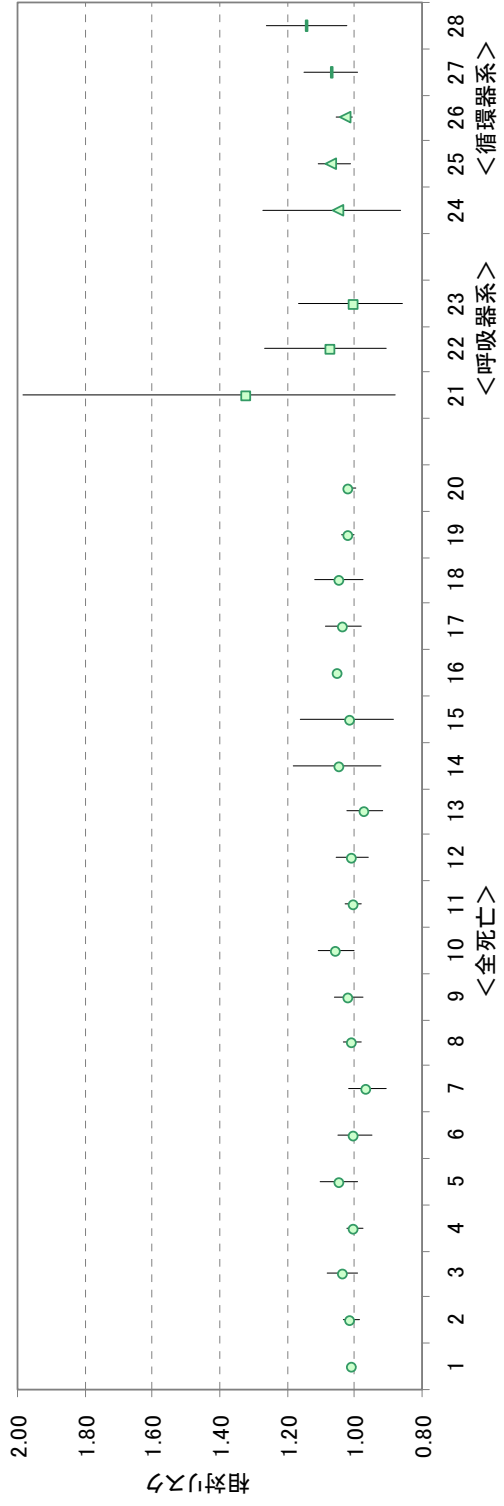
番号	文献	地域	解析モデル	備考
1	Pope, 1992	Utah Valley(UT)	Poisson reg.	
2	Dockery, 1992	St. Louis (MO)	Poisson reg.	
3	Dockery, 1992	eastern Tennessee (TN)	Poisson reg.	
4	Schwartz, 1993	Birmingham (AL)	Poisson reg.	
5	Kinney, 1995	Los Angeles (CA)	Poisson reg.	
6	Styer, 1995	Cook County(IL)	Multiple reg.	秋季
7		Cook County(IL)	Multiple reg.	elderly, 秋季
8	Ito, 1995	Cook County (IL)	Poisson reg.	
9	Ito, 1996	Cook County (IL)	log-linear	
10			log-linear	black females
11	Gamble, 1998	Dallas (TX)	Poisson reg.	
12	Ostro, 1999	Coachella Valley (CA)	GAM	
13	Pope, 1999	Ogden(UT)	Poisson reg.	
14	Pope, 1999	Salt Lake(UT)	Poisson reg.	
15	Pope, 1999	Provo/Orem(UT)	Poisson reg.	
16	Schwartz, 1999	Spokane(WA)	Poisson reg.	dust storms
17	Braga, 2000	5 US cities	GAM	adjusted
18	Chock, 2000	Pittsburgh (PA)	Poisson reg.	<75yr
19	Gwynn, 2000	Buffalo (NY)	GILM	補充後
20	Klemm, 2003	6 US cities	GAM-str	
21		Boston (MA)		
22		Knoxville (TN)		
23		St.Louis (MO)		
24		Steubenville (OH)		
25		Portage (WI)		
26		Topeka (KS)		
27	Fairley, 2003	Santa Clara (CA)	GAM-str	
28	Moolgavkar, 2003	Los Angeles (CA)	GAM-str	30df(10 ⁻⁸)
29	Moolgavkar, 2003	Cook County (IL)	GAM-str	30df(10 ⁻⁸)
30	Lipfert, 2000	Philadelphia(PA)	Multiple reg.	
31	Ito, 2003	Detroit (MI)	GAM-str	1985-1990
32	Ito, 2003	Detroit (MI)	GAM-str	1992-1994
33	Samet, 2000	20 US cities	Log-linear	
34	Dominici, 2000	20 US cities	GAM	
35	Dominici, 2003	90 US cities	GAM-str	

番号	文献	地域	解析モデル	備考
36	Dominici, 2003	90 US cities	GLM/ns	
37	Dominici, 2003	88 US cities	baysian	
38	Dominici, 2003	4 US cities	Fourier decomp & Poisson reg.	
39	Schwartz, 2004	14 US cities	Case-crossover	
40			Poisson reg.	
41	Zeka, 2004	90 US cities	hierarchical model	
42	Peng, 2005	100 US cities	Bayesian	summer
43			Bayesian	all seasons
44	Roberts, 2006	109 US cities	Bayesian hierarchical	
45	Schwartz, 2003	10 US cities	GAM-str	65+yr
46		New Haven	(distributed)	
47		Birmingham		
48		Pittsburgh		
49		Detroit		
50		Canton		
51		Chicago		
52		Minneapolis/St Paul		
53		Colorado Springs		
54		Spokane		
55		Seattle		
56	Schwartz, 2003	10 US cities	GAM-str(distributed)	65+yr
57	Schwartz, 2003	10 US cities	GAM-str	
58	Tsai, 2000	Newark(NJ)	Poisson reg.	
59	Tsai, 2000	Camden(NJ)	Poisson reg.	
60	Tsai, 2000	Elizabeth (NJ)	Poisson reg.	
61	Bateson, 2004	Cook County (IL)	Case-crossover	
62	Zanobetti, 2000	4 US cities	Poisson reg.	Female
63	Zanobetti, 2000	4 US cities	Poisson reg.	Male
64	Staniswalis, 2005	El Paso (TX)	Log-linear	
65	Schwartz, 2001	Chicago (IL)	GAM	
66	Slaughter, 2005	Spokane (WA)	GILM	
67	Burnett, 1998	Toronto(Canada)	GAM	
68	Burnett, 2003	8 cities (Canada)	GAM-str	
69	Villeneuve, 2003	Vancouver (Canada)	stepwise reg.	65+yr
70	Burnett, 2004	12 cities (Canada)	natural splines	

図 6.1(6) 短期曝露影響：死亡 PM₁₀：北米（全死亡） 凡例

番号	文献	地域	解析モデル	備考
1	Dockery, 1992	St. Louis (MO)	Poisson reg.	
2	Dockery, 1992	eastern Tennessee (TN)	Poisson reg.	
3	Ostro, 1995	San Bernardino, Riverside(CA)	Multiple reg.	年間
4			Multiple reg.	夏季
5	Klemm, 2003	6 US cities	GAM-str	
6		6 US cities		65+yr
7		Boston (MA)		
8		Boston (MA)		65+yr
9		Knoxville (TN)		65+yr
10		Knoxville (TN)		65+yr
11		St.Louis (MO)		65+yr
12		St.Louis (MO)		65+yr
13		Steubenville (OH)		65+yr
14		Steubenville (OH)		65+yr
15		Portage (WI)		65+yr
16		Portage (WI)		65+yr
17		Topeka (KS)		65+yr
18		Topeka (KS)		65+yr
19	Schwartz, 2003	6 US cities	GAM-str	Dirt
20				Traffic
21				Coal
22	Schwartz, 2003	6 Cities (US)	GAM-str	
23		Boston (MA)		
24		Kingston (TN)		
25		Steubenville (OH)		
26		St.Louis (MO)		
27		Madison (WI)		
28		Topeka (KS)		
29	Fairley, 2003	Santa Clara, (CA)	GAM-str	
30	Moolgavkar, 2003	Los Angeles, (CA)	GAM-str	30d $\times(10^{-8})$
31	Klemm, 2000	Atlanta, (GA)	GAM	
32	Lipfert, 2000	Philadelphia(PA)	Multiple reg.	
33	Ito, 2003	Detroit, (MI)	GAM-str	1992-1994
34	Klemm, 2004	Fulton, DeKalb(GA)	GLM	monthly knots
35	Tsai, 2000	Newark(NJ)	Poisson reg.	
36	Tsai, 2000	Camden(NJ)	Poisson reg.	
37	Tsai, 2000	Elizabeth (NJ)	Poisson reg.	
38	Ostro, 2006	9 California Counties (CA)	natural splines	all ages
39			penalized splines	all ages
40	Ostro, 2006	9 California Counties (CA)	natural splines	>65 yr
41			penalized splines	>65 yr
42	Ito, 2006	Washington, D.C	GLM	secondary sulfate
43			GLM	coal related
44			GLM	residual oil
45	Slaughter, 2005	Spokane (WA)	GLM	
46	Burnett, 1998	Toronto(Canada)	GAM	
47	Burnett, 2003	8 cities (Canada)	GAM-str	
48	Goldberg, 2003	Montreal(Canada)	GAM-str	all ages
49			GAM-str	65+yr
50			GAM-str	<65 yr
51	Villeneuve, 2003	Vancouver (Canada)	stepwise reg.	65+yr, TEOM
52	Villeneuve, 2003	Vancouver (Canada)	stepwise reg.	65+yr, dichotomous
53	Burnett, 2004	12 Canadian cities	natural splines	

図 6.1(7) 短期曝露影響：死亡 PM_{2.5}：北米（全死亡） 凡例



番号	文献	地域	解析モデル	備考	番号	文献	地域	解析モデル	備考
<全死亡>									
1	Klemm, 2003	6 US cities	GAM-str		21	Fairley, 2003	Santa Clara County,	GAM-st	呼吸器
2		Boston (MA)			22	Ito, 2003	Detroit, (MI)	GAM-str	呼吸器
3		Knoxville (TN)			23	Villeneuve, 2003	Vancouver (BC, Canada)	stepwise reg.	呼吸器, 65yr
4		St.Louis (MO)			<循環器系>				
5		Steubenville (OH)			24	Fairley, 2003	Santa Clara County,	GAM-st	CVD
6		Portage (WI)			25	Mar, 2003	Phoenix, (AZ)	GAM-str	CVD
7		Topeka (KS)			26	Ostro, 2003	Coachella Valley(CA)	GAM-str	CVD
8	Schwartz, 2003	Boston (MA)	GLM/ps		27	Ito, 2003	Detroit, (MI)	GAM-str	循環器
9		Kingston (TN)			28	Villeneuve, 2003	Vancouver (BC, Canada)	stepwise reg.	循環器, 65+yr
10		Steubenville (OH)			<呼吸器系>				
11		St.Louis (MO)			21	Fairley, 2003	Santa Clara County,	GAM-st	呼吸器
12		Madison (WI)			22	Ito, 2003	Detroit, (MI)	GAM-str	呼吸器
13		Topeka (KS)			23	Villeneuve, 2003	Vancouver (BC, Canada)	stepwise reg.	呼吸器, 65yr
14	Fairley, 2003	Santa Clara County,	GAM-st		24	Fairley, 2003	Santa Clara County,	GAM-st	CVD
15	Klemm, 2000	Atlanta, (GA)	GAM		25	Mar, 2003	Phoenix, (AZ)	GAM-str	CVD
16	Lipfert, 2000	Philadelphia(PA)	Multiple reg.		26	Ostro, 2003	Coachella Valley(CA)	GAM-str	CVD
17	Ito, 2003	Detroit, (MI)	GAM-str		27	Ito, 2003	Detroit, (MI)	GAM-str	循環器
18	Villeneuve, 2003	Vancouver (BC, Canada)	stepwise reg.	65+yr	28	Villeneuve, 2003	Vancouver (BC, Canada)	stepwise reg.	循環器, 65+yr
19	Burnett, 2003	8 cities (Canada)	GAM-str		<全死亡>				
20	Burnett, 2004	12 Canadian cities	natural splines		21	Fairley, 2003	Santa Clara County,	GAM-st	呼吸器

図 6.1(8) 短期曝露影響：死亡 PM_{10-2.5}：北米（全死亡及び死因別）

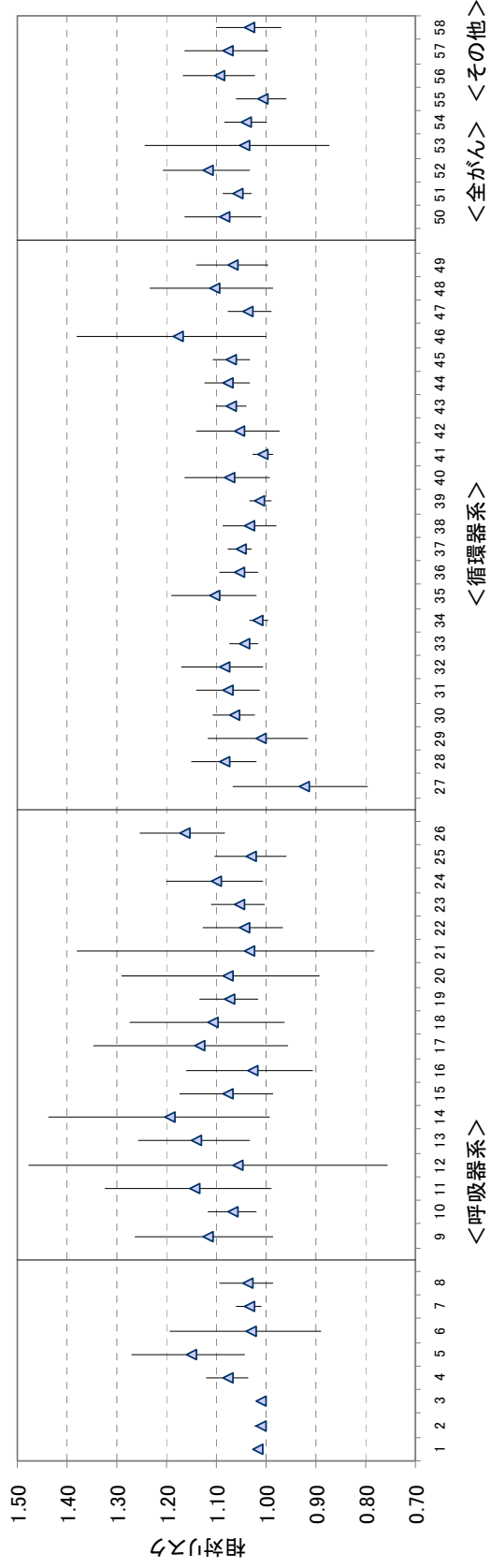


図 6.1(9) 短期曝露影響：死亡 PM₁₀：北米 (死因別)

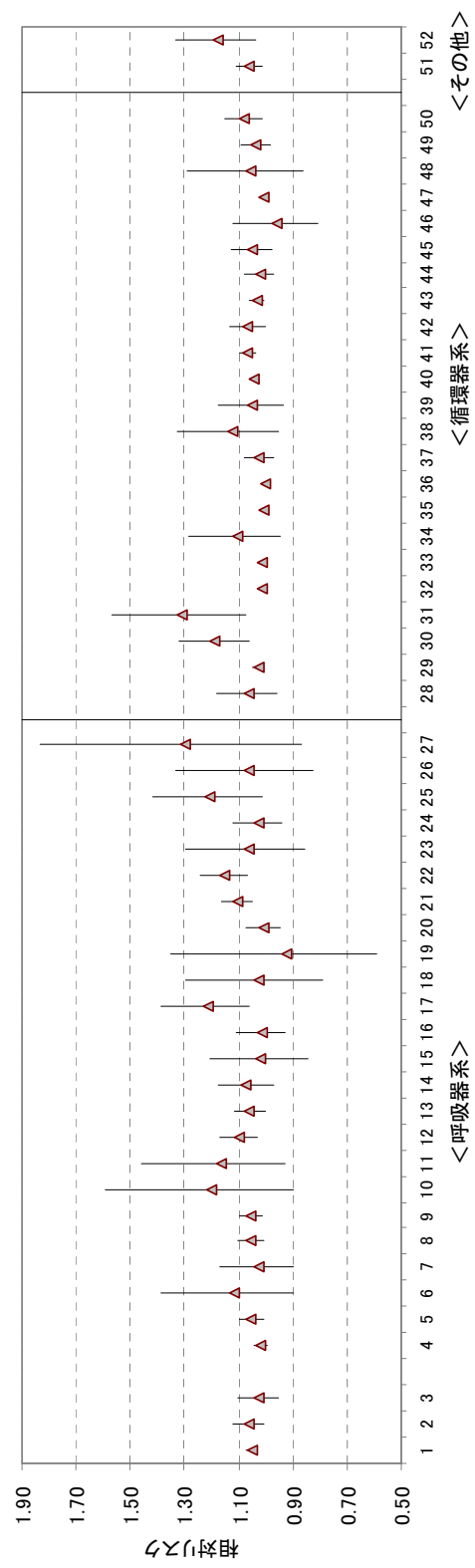


図 6.1(10) 短期曝露影響：死亡 PM_{2.5}：北米 (死因別)

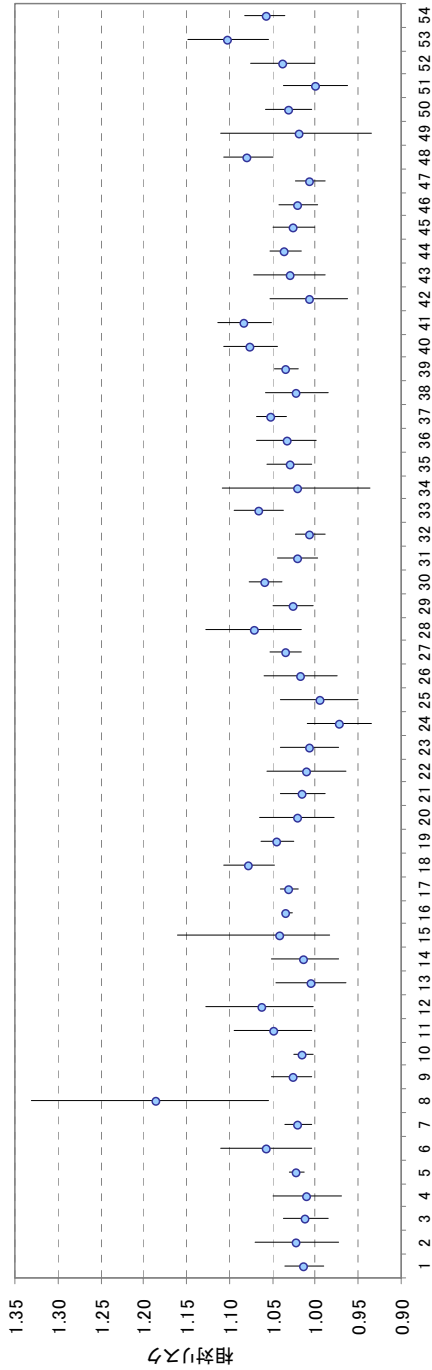
番号	文献	地域	解析モデル	死因	備考
1	Dominici, 2003a	88 US cities	baysian	心血管・呼吸器	
2	Dominici, 2003b	4 US cities	Poisson reg.	心血管・呼吸器	
3	Roberts, 2006	109 US cities	Bayesian	心血管・呼吸器	
4	Tsai, 2000	Newark(NJ)	Poisson reg.	循環・呼吸器	
5		Camden(NJ)		循環・呼吸器	
6		Elizabeth (NJ)		循環・呼吸器	
7	Samet, 2000	20 US cities	Log-linear	循環・呼吸器	
8	Bateson, 2004	Cook County (IL)	Case-crossover	循環・呼吸器	
9	Styer, 1995	Cook County(IL)	Multiple reg.	呼吸器	秋季
10	Ito, 1996	Cook County (IL)	log-linear	呼吸器	
11				呼吸器	black females
12	Gamble, 1998	Dallas (TX)	Poisson reg.	呼吸器	
13	Ostro, 1999	Coachella Valley (CA)	GAM	呼吸器	
14	Pope, 1999	Ogden(UT)	Poisson reg.	呼吸器	
15		Salt Lake(UT)		呼吸器	
16		Provo/Orem(UT)		呼吸器	
17	Gwynn, 2000	Buffalo (NY)	GLM	呼吸器	補充後
18	Fairley, 2003	Santa Clara (CA)	GAM-st	呼吸器	1985-1990
19	Ito, 2003	Detroit (MI)	GAM-str	呼吸器	1992-1994
20				呼吸器	65+yr
21	Villeneuve, 2003	Vancouver (Canada)	stepwise reg.	呼吸器	
22	Moolgavkar, 2003	Los Angeles (CA)	GAM-str	COPD	30df(10 ⁻⁸)
23		Cook County (IL)		COPD	30df(10 ⁻⁸)
24	Schwartz, 2003	10 US cities	GAM-str(distributed)	COPD	
25	Bateson, 2004	Cook County (IL)	Case-crossover	COPD	
26	Schwartz, 2003	10 US cities	GAM-str (distributed)	肺炎	

番号	文献	地域	解析モデル	死因	備考
27	Gamble, 1998	Dallas (TX)	Poisson reg.	CVD	
28	Ostro, 1999	Coachella Valley (CA)	GAM	CVD	
29	Pope, 1999	Ogden(UT)	Poisson reg.	CVD	
30		Salt Lake(UT)		CVD	
31		Provo/Orem(UT)		CVD	
32	Fairley, 2003	Santa Clara (CA)	GAM-st	CVD	
33	Moolgavkar, 2003	Los Angeles (CA)	GAM-str	CVD	30df(10 ⁻⁸)
34		Cook County (IL)		CVD	30df(10 ⁻⁸)
35	Mar, 2003	Phoenix (AZ)	GAM-str	CVD	
36	Ostro, 2003	Coachella Valley(CA)	GAM-str	CVD	
37	Schwartz, 2003	10 US cities	GAM-str (distributed)	CVD	
38	Styer, 1995	Cook County(IL)	Multiple reg.	循環器	秋季
39	Ito, 1996	Cook County (IL)	log-linear	循環器	
40	Gwynn, 2000	Buffalo (NY)	GLM	循環器	補充後
41	Ito, 2003	Detroit (MI)	GAM-str	循環器	1985-1990
42				循環器	1992-1994
43	De Leon, 2003	New York (NY)	GAM	循環器	all ages
44				循環器	<75yr
45				循環器	75+yr
46	Villeneuve, 2003	Vancouver (Canada)	stepwise reg.	循環器	65+yr
47	Schwartz, 2003	10 US cities	GAM-str (distributed)	MI	
48	Bateson, 2004	Cook County (IL)	Case-crossover	MI	
49	Bateson, 2004	Cook County (IL)	Case-crossover	CHF	
50	Styer, 1995	Cook County(IL)	Multiple reg.	がん	秋季
51	Ito, 1996	Cook County (IL)	log-linear	がん	
52			log-linear	がん	black females
53	Gamble, 1998	Dallas (TX)	Poisson reg.	がん	
54	De Leon, 2003	New York (NY)	GAM	がん	all ages
55				がん	<75yr
56				がん	75+yr
57	Bateson, 2004	Cook County (IL)	Case-crossover	Diabetes	
58	Bateson, 2004	Cook County (IL)	Case-crossover	Conduction disorders	

図 6.1(9) 短期曝露影響：死亡 PM₁₀：北米 (死因別) 凡例

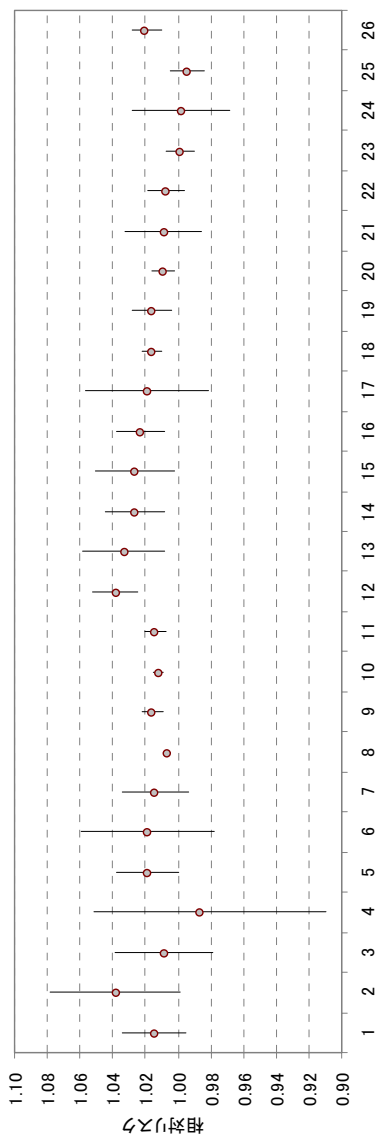
番号	文献	地域	解析モデル	死因	備考
1	Tsai, 2000	Newark(NJ)	Poisson reg.	循環・呼吸器	
2		Camden(NJ)		循環・呼吸器	
3		Elizabeth(NJ)		循環・呼吸器	
4	Ostro, 1995	San Bernardino, Riverside(CA)	Multiple reg.	呼吸器	年間
5				呼吸器	夏季
6	Fairley, 2003	Santa Clara (CA)	GAM-st	呼吸器	1992-1994
7	Ito, 2003	Detroit (MI)	GAM-str	呼吸器	
8	Ostro, 2006	9 California Counties (CA)	natural splines	呼吸器	
9			penalized splines	呼吸器	
10	Villeneuve, 2003	Vancouver (Canada)	stepwise reg.	呼吸器	TEOM, dichotomous, 65+yr
11				呼吸器	
12	Goldberg, 2003	Montreal(Canada)	GAM-str	acute LRD	
13	Klemm, 2003	6 US cities	GAM-str	COPD	
14		Boston (MA)		COPD	
15		Knoxville (TN)		COPD	
16		St.Louis (MO)		COPD	
17		Steubenville (OH)		COPD	
18		Portage (WI)		COPD	
19		Topeka (KS)		COPD	
20	Moolgavkar, 2003	Los Angeles(CA)	GAM-str	肺炎	30df(10 ⁻⁸)
21	Klemm, 2003	6 US cities	GAM-str	肺炎	
22		Boston (MA)		肺炎	
23		Knoxville (TN)		肺炎	
24		St.Louis (MO)		肺炎	
25		Steubenville (OH)		肺炎	
26		Portage (WI)		肺炎	
27		Topeka (KS)		肺炎	
28	Fairley, 2003	Santa Clara (CA)	GAM-st	CVD	
29	Moolgavkar, 2003	Los Angeles (CA)	GAM-str	CVD	30df(10 ⁻⁸)
30	Mar, 2003	Phoenix (AZ)	GAM-str	CVD	
31	Holloman, 2004	7 North Carolina counties(NC)	Bayesian	CVD	
32	Ostro, 2006	9 California Counties(CA)	natural splines	CVD	
33			penalized splines	CVD	
34	Ostro, 2003	Coachella Valley(CA)	GAM-str	CVD	
35	Ostro, 1995	San Bernardino, Riverside(CA)	Multiple reg.	循環器	年間
36				循環器	夏季
37	Ito, 2003	Detroit (MI)	GAM-str	循環器	1992-1994
38	Villeneuve, 2003	Vancouver (Canada)	stepwise reg.	循環器	TEOM, dichotomous, 65+yr
39				循環器	
40	Klemm, 2003	6 US cities	GAM-str	IHD	
41		Boston (MA)		IHD	
42		Knoxville (TN)		IHD	
43		St.Louis (MO)		IHD	
44		Steubenville (OH)		IHD	
45		Portage (WI)		IHD	
46		Topeka (KS)		IHD	
47	Ostro, 2006	9 California Counties (CA)	penalized splines	IHD	
48	Goldberg, 2003a	Montreal(Canada)	GLM/ns	心不全	65+yr
49	Goldberg, 2003b	Montreal(Canada)	GAM-str	chronic coronary artery disease	
50	Goldberg, 2003b	Montreal(Canada)	GAM-str	congestive heart failure	
51	Ostro, 2006	9 California Counties (CA)	penalized splines	Diabetes	
52	Goldberg, 2006	Montreal(Canada)	log-linear	糖尿病	65+yr

図 6.1(10) 短期曝露影響：死亡 PM_{2.5}：北米（死因別） 凡例



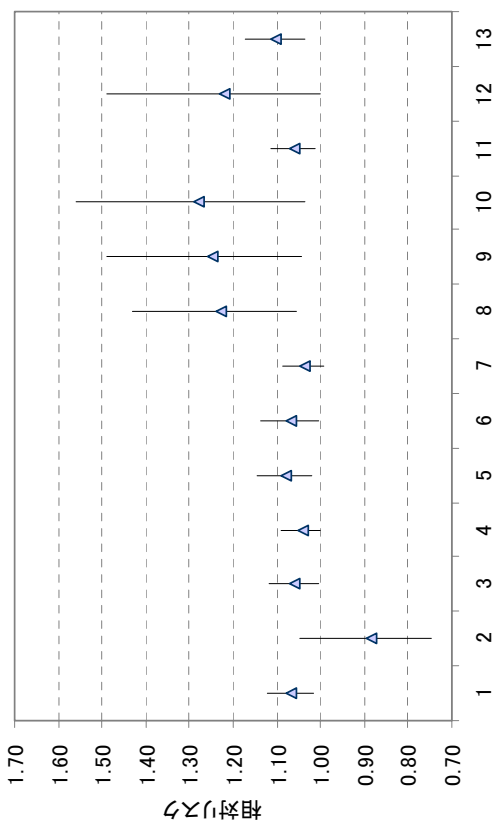
番号	文献	地域	解析モデル	備考	番号	文献	地域	解析モデル	備考
1	Bremner, 1999	London (UK)	GLM	all ages	28	Katsouyanni, 2003	Lyon (France)	GAM-str	
2				0-64yr	29		Madrid		
3				65+yr	30		Milano		
4	Zmirou, 1996	Lyon (France)	Poisson reg.		31		Paris (France)		
5	Katsouyanni, 1997	12 EU cities	Poisson autoreg.	Combined	32		Prague		
6	Wordley, 1997	Birmingham (UK)	Multi-linear		33		Rome (Italy)		
7	Michelozzi, 1998	Rome (Italy)	GAM		34		Stockholm		
8	Ponka, 1998	Helsinki (Finland)	Poisson reg.	<65yr	35		Tel Aviv		
9	Ballester, 2002	3 cities (Spain)	GAM		36		Teplice		
10	Hock, 2003	The Netherlands	GAM-str	avg	37		Torino		
11	Peters, 2000	Coalbasin (Czech)	Poisson reg.		38		Zurich		
12	Stölzel, 2003	Erfurt (Germany)	GAM-str		39	Zanobetti, 2003a	10 EU cities	GAM-str	
13	Anderson, 2001	West midland(UK)	GAM-str		40		10 EU cities	GAM-str(distributed)	
14	Zeghnoun, 2001	Rouen (France)	GAM		41		Athens		
15		LeHrvre (France)			42		Budapest		
16	Katsouyanni, 2003	21 EU cities	GAM-str	fixed	43		Lodz		
17		21 EU cities		random	44		London		
18		Athens			45		Madrid		
19		Barcelona			46		Paris		
20		Basel			47		Prague		
21		Birmingham			48		Rome		
22		Budapest			49		Stockholm		
23		Cracow			50		Tel Aviv		
24		Erfurt			51	Zanobetti, 2003b	10 EU cities	GAM-str(distributed)	15-64yr
25		Geneva			52		10 EU cities	distributed	65-74yr
26		Helsinki			53		10 EU cities	distributed	75+yr
27		London (UK)			54	Forastiere, 2007	Rome (Italy)	Case-crossover	35+yr

図 6.1(11) 短期曝露影響：死亡 PM₁₀：欧州（全死亡）



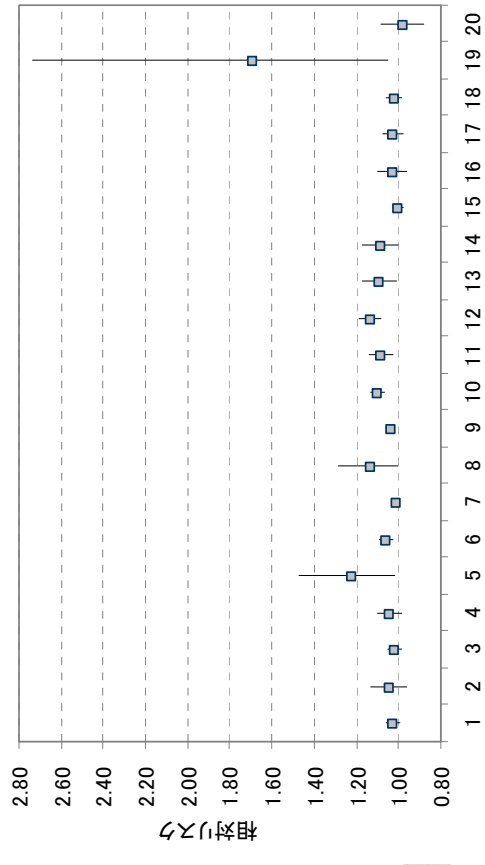
番号	文献	地域	解析モデル	備考	指標
1	Peters, 2000	Coalbasin (Czech)	Poisson reg.		PM _{2.5}
2	Stölzel, 2003	Erfurt (Germany)	GAM-str		MC0.01-2.5
3	Anderson, 2001	West Midland(UK)	GAM-str		PM _{2.5}
4	Anderson, 2001	West Midland(UK)	GAM-str		PM _{10-2.5}
5	Bremner, 1999	London (UK)	GLM		BS
6				0-64yr	BS
7				65+yr	BS
8	Katsouyanni, 1997	12 EU cities	Poisson autoreg.	Combined	BS
9	Hoek, 2003	entire Netherlands	GAM-str	avg	BS
10	Katsouyanni, 2003	14 EU cities	GAM-str	fixed	BS
11	Katsouyanni, 2003	14 EU cities	GAM-str	random	BS
12		Barcelona			BS
13		Valencia			BS
14		Marseille			BS
15		Dublin			BS
16		London (UK)			BS
17		Bilbao			BS
18		Athens			BS
19		Poznan			BS
20		Paris (France)			BS
21		Birmingham			BS
22		Wroclaw			BS
23		Lodz			BS
24		Ljubljana			BS
25		Cracow			BS
26	Ballester, 2002	7 cities (Spain)	GAM		BS

図 6.1(12) 短期曝露影響：死亡 PM_{2.5}/PM_{10-2.5}/BS：欧州（全死亡）



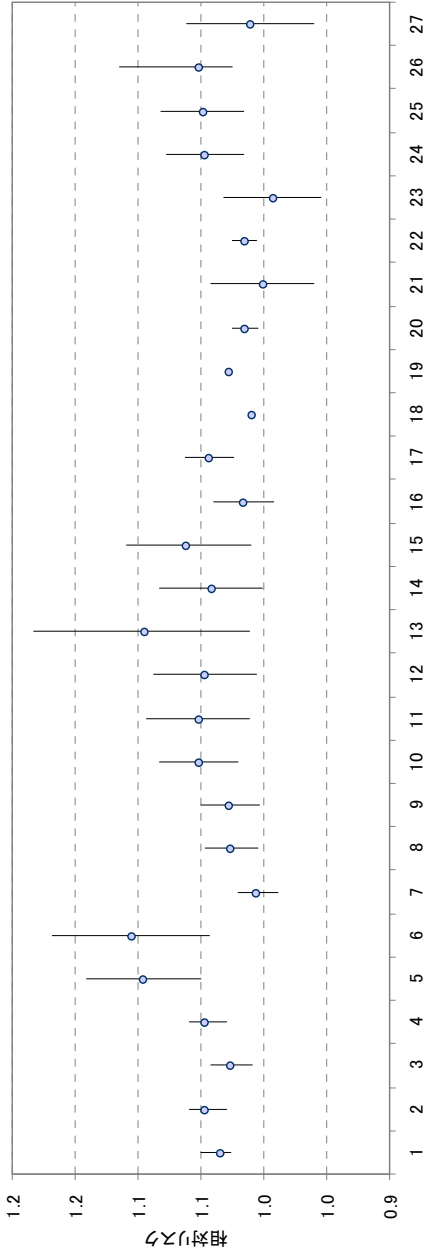
番号	文献	地域	解析モデル	死因	備考
1	Bremner, 1999	London (UK)	GLM	呼吸器	all ages
2				呼吸器	0-64yr
3				呼吸器	65+yr
4	Zmirou, 1996	Lyon (France)	Poisson reg.	呼吸器	
5	Dab, 1996	Paris (France)	Poisson reg.	呼吸器	
6	Ballester, 2002	3 cities (Spain)	GAM	呼吸器	
7	Zanobetti, 2003	10 EU cities	GAM-str	呼吸器	
8			GAM-str(distri.)	呼吸器	15+yrs
9			GAM-str(distri.)	呼吸器	15+yrs
10	Wordley, 1997	Birmingham (UK)	Multi-linear	COPD	75+yr
11	Hoek, 2003	The Netherlands	GAM-str	COPD	
12	Sunyer, 2001	Barcelona (Spain)	Logistic reg.	COPD	
13	Hoek, 2003	The Netherlands	GAM-str	肺炎	35+yr,odds

図 6.1(13) 短期曝露影響：死亡 PM_{10/13}：欧州 (呼吸器系死亡)



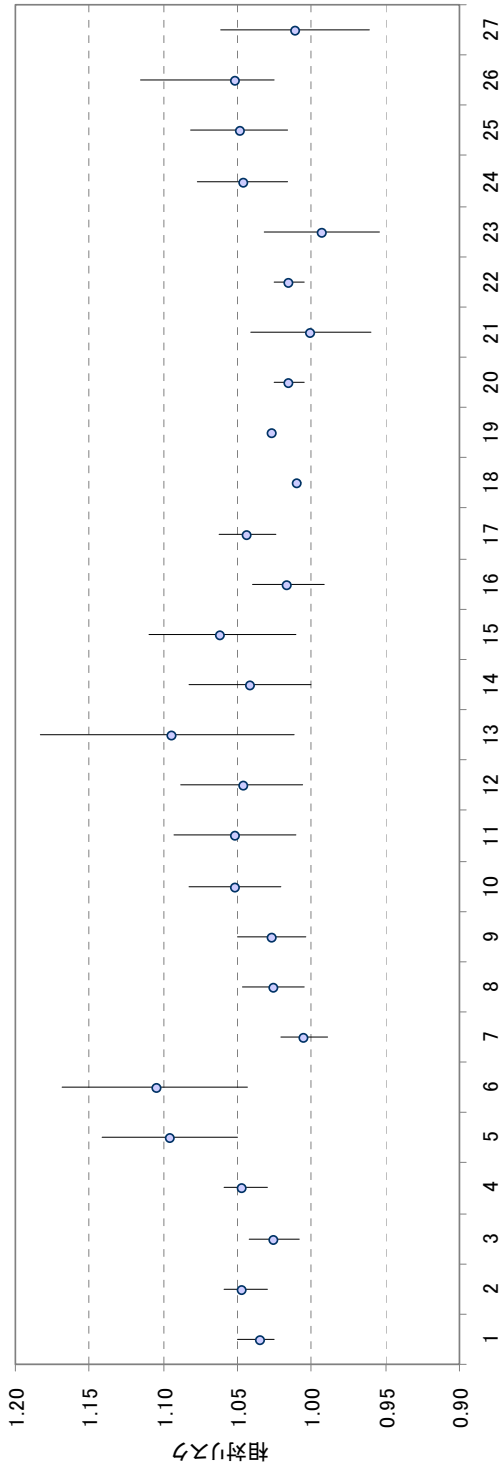
番号	文献	地域	解析モデル	死因	備考
1	Bremner, 1999	London (UK)	GLM	CVD	all ages
2					0-64yr
3					65+yr
4	Zmirou, 1996	Lyon (France)	Poisson reg.	CVD	
5	Ponka, 1998	Helsinki (Finland)	Poisson reg.	CVD	
6	Ballester, 2002	3 cities (Spain)	GAM	CVD	<65yr
7	Hoek, 2003	The Netherlands	GAM-str	CVD	
8	Zeghnoun, 2001	LeHvre (France)	GAM	CVD	
9	Zanobetti, 2003	10 EU cities	GAM-str	CVD	
10			GAM-str(distri.)	CVD	15+yrs
11			GAM-str(distri.)	CVD	15+yrs
12			GAM-str(distri.)	CVD	65-74yr
13	Wordley, 1997	Birmingham (UK)	Multi-linear	循環器	75+yr
14	Forastiere, 2005	Rome (Italy)	Logistic reg.	IHD	35+yrs
15	Hoek, 2003	The Netherlands	GAM-str	MI	
16	Hoek, 2003	The Netherlands	GAM-str	arrhythmia	
17	Hoek, 2003	The Netherlands	GAM-str	HF	
18	Hoek, 2003	The Netherlands	GAM-str	cerebrovascular	
19	Kettunen, 2007	Helsinki	Poisson reg.	脳卒中	65+yr, 暖季
20	Kettunen, 2007	Helsinki	Poisson reg.	脳卒中	65+yr, 寒季

図 6.1(14) 短期曝露影響：死亡 PM_{10/13}：欧州 (循環器系死亡)



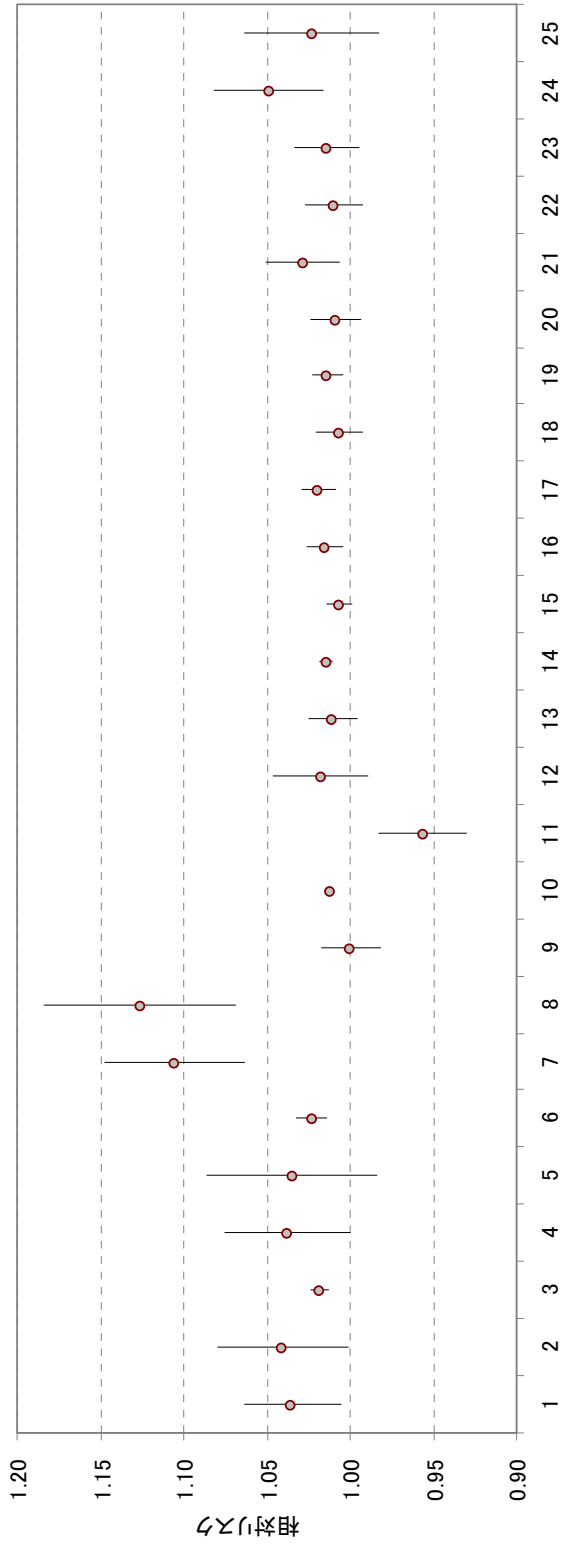
番号	文献	地域	解析モデル	死因	備考	指標
<呼吸器>						
1	Bremner, 1999	London (UK)	GLM	呼吸器	all ages	BS
2	Bremner, 1999	London (UK)	GLM	呼吸器	0-64yr	BS
3	Bremner, 1999	London (UK)	GLM	呼吸器	65+yr	BS
4	Dab, 1996	Paris (France)	Poisson reg.	呼吸器		BS
5	Ballester, 2002	7 cities (Spain)	GAM	呼吸器		BS
6	Hoek, 2003	entire Netherlands	GAM-str	COPD		BS
7	Hoek, 2003	entire Netherlands	GAM-str	肺炎		BS
<循環器>						
8	Bremner, 1999	London (UK)	GLM	CVD	all ages	BS
9	Bremner, 1999	London (UK)	GLM	CVD	0-64yr	BS
10	Bremner, 1999	London (UK)	GLM	CVD	65+yr	BS
11	Ballester, 2002	7 cities (Spain)	GAM	CVD		BS
12	Hoek, 2003	entire Netherlands	GAM-str	CVD		BS
13	Hoek, 2003	entire Netherlands	GAM-str	MI		BS
14	Hoek, 2003	entire Netherlands	GAM-str	arrhythmia		BS
15	Hoek, 2003	entire Netherlands	GAM-str	heart failure		BS
16	Hoek, 2003	entire Netherlands	GAM-str	cerebrovascular		BS
17	Kettunen, 2007	Helsinki (Finland)	Poisson reg.	脳卒中	65+yr, 暖季	PM _{2.5}
18					65+yr, 寒季	PM _{2.5}
19					65+yr, 暖季	PM _{10-2.5}
20					65+yr, 寒季	PM _{10-2.5}

図 6.1(15) 短期曝露影響：死亡 PM_{2.5}/PM_{10-2.5}/BS：欧州（呼吸器・循環器系死亡）



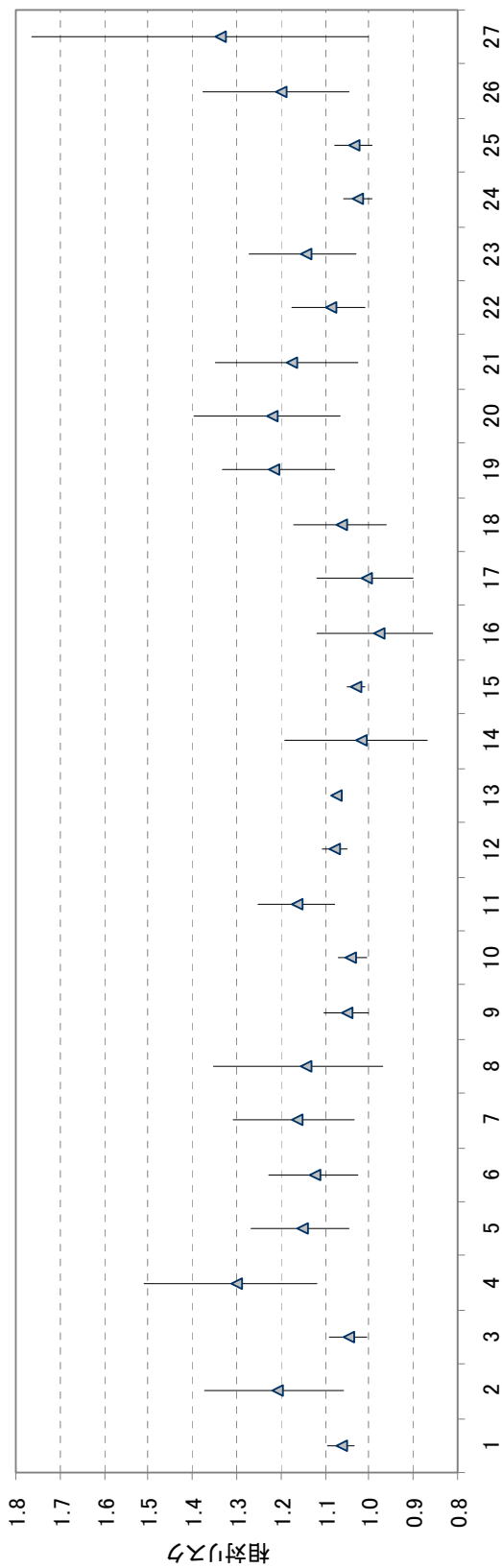
番号	文献	地域	解析モデル	備考
1	Ostro, 1996	Santiago (Chile)	Poisson reg	all ages
2				male
3				female
4				65+yr
5	Castillejos, 2000	Mexico City (Mexico)	GAM	all ages
6				>65yr
7	Gouveia, 2000	São Paulo (Brazil)	GLM	all ages
8				65+yr
9	O'Neill, 2004	Mexico City (Mexico)	Pois/ns	高濃度地域
10	Ostro, 1998	Bangkok (Thailand)	Multivariate Pois	all ages
11				65+yr
12				6-64yr
13				<6yr
14	Hong, 1999a	Incheon (South Korea)	GAM	
15	Hong, 1999b	Incheon (South Korea)	GAM	
16	Wong, 2001	Hong Kong (China)	Poisson reg.	寒季
17	Kim, 2003	Seoul (South Korea)	GAM(distribut	
18	Ha, 2003	Seoul (South Korea)	GAM	2-64yr
19				65+yr
20	Kan, 2003	Shanghai(China)	GAM	
21	Tsai, 2003	Kaoshiung (Taiwan)	case-crossover	odds
22	Aunan, 2004	(China)	meta-analysis	
23	Yang, 2004	Taipei(Taiwan)	case-crossover	odds
24	Simpson, 1997	Brisbane region (Australia)	GEE	濃度は推定
25	Morgan, 1998	Sydney (Australia)	GEE	濃度は推定
26	Hales, 2000	Christchurch (New Zealand)		
27	Simpson, 2005	4 Australia cities (Australia)	meta-analysis	

図 6.1(16) 短期曝露影響：死亡 PM₁₀：中南米・アジア・オセアニア（全死亡）



番号	文献	地域	解析モデル	備考	指標	番号	文献	地域	解析モデル	備考	指標
1	Borja-Aburto, 1998	Mexico City (Mexico)	GAM		PM _{2.5}	14	Omori, 2003	Tokyo	GAM	65+yr	SPM
2	Cifuentes, 2000	Santiago (Chile)	GAM	65+ yr		15		Yokohama			
3	Castillejos, 2000	Mexico City (Mexico)	GAM		PM _{2.5}	16		Kawasaki			
4	Castillejos, 2000	Mexico City (Mexico)	GAM		PM _{2.5}	17		Nagoya			
5	Cifuentes, 2000	Santiago (Chile)	GAM	>65yr		18		Kyoto			
6	Castillejos, 2000	Mexico City (Mexico)	GAM		PM _{10-2.5}	19		Osaka			
7	Castillejos, 2000	Mexico City (Mexico)	GAM		PM _{10-2.5}	20		Kobe			
8	Castillejos, 2000	Mexico City (Mexico)	GAM	>65yr		21		Hiroshima			
9	Venners, 2003	Chongqing (China)	Pois	all ages	PM _{2.5}	22		Kitakyushu			
10	Omori, 2003	13政令都市 (日本)	GAM	65+yr	SPM	23		Fukuoka			
11	Sapporo					24	Morgan, 1998	Sydney (Australia)	GEE	濃度は推定	PM _{2.5} (推定)
12	Sendai					25	Simpson, 2005	4 Australia cities (Australia)	meta-analysis		PM _{2.5}
13	Chiba										

図 6.1(17) 短期曝露影響：死亡 PM_{2.5}/PM_{10-2.5}/SPM：中南米・アジア・オセアニア (全死亡)



番号	文献	地域	解析モデル	死因	備考	番号	文献	地域	解析モデル	死因	備考
1	Ostro, 1996	Santiago (Chile)	Poisson reg	呼吸器		15	Aunan, 2004	(China)	meta-analysis	呼吸器	
2	Castillejos, 2000	Mexico City (Mexico)	GAM	呼吸器		16	Yang, 2004	Taipei(Taiwan)	case-crossover	呼吸器	
3	Gouveia, 2000	São Paulo (Brazil)	GLM	呼吸器	65+yr	17	Simpson, 1997	Brisbane region	GEE	呼吸器	odds
4	Martins, 2004	6 São Paulo regions	GLM	呼吸器	60+yr	18	Morgan, 1998	Sydney (Australia)	GEE	呼吸器	濃度は推定
5	Tellez-Rojo, 2000	Mexico City (Mexico)	time series	呼吸器	65+yr,	19	Hales, 2000	Christchurch (New Zealand)		呼吸器	濃度は推定
6	Ostro, 1998	Bangkok (Thailand)	Multivariate	呼吸器	65+yr,	20	Tellez-Rojo, 2000	Mexico City (Mexico)	time series	COPD	65+yr,
7	Hong, 1999a	Incheon (South Korea)	GAM	呼吸器	寒季	21	Wong, 2002	Hong Kong (China)	Poisson reg.	COPD	65+yr,
9	Wong, 2001	Hong Kong (China)	Poisson reg.	呼吸器		22	Kim, 2003	Seoul (Korea)	GAM	COPD	
10	Wong, 2002	Hong Kong (China)	Poisson reg.	呼吸器		23	Kim, 2003	Seoul (Korea)	GAM	COPD	
11	Kim, 2003	Seoul (Korea)	GAM	呼吸器		24	Kan, 2003	Shanghai(China)	GAM	COPD	
12	Ha, 2003	Seoul (South Korea)	GAM	呼吸器	2-64yr	25	Wong, 2002	Hong Kong (China)	Poisson reg.	肺炎: インフルエンザ	
13	Tsai, 2003	Kaoshiung (Taiwan)	case-crossover	呼吸器	65+yr	26	Kim, 2003	Seoul (Korea)	GAM	肺炎	
14					odds	27	Kan, 2005	北京 (中国)	GAM	SARS	5d avg

図 6.1(18) 短期曝露影響：死亡 PM₁₀：中南米・アジア・オセアニア（呼吸器系死亡）