

gastric cancer risk: an evaluation based on a systematic review of epidemiologic evidence among the Japanese population. *Jpn J Clin Oncol.* 2006;36:800-7.

15) Otani T, Tsugane S et al. Plasma C-peptide, insulin-like growth factor-I, insulin-like growth factor binding proteins and risk of colorectal cancer in a nested case-control study: The Japan public health center-based prospective study. *Int J Cancer.* 2007;120:2007-12.

16) Lee KJ, Tsugane S et al. Colorectal cancer screening using fecal occult blood test and subsequent risk of colorectal cancer: A prospective cohort study in Japan. *Cancer Detect Prev.* 2007;31:3-11.

17) Iwasaki M, Tsugane S et al. Role and impact of menstrual and reproductive factors on breast cancer risk in Japan. *Eur J Cancer Prev.* 2007; 16:116-23.

18) Wakai K, Tsugane S et al. Alcohol Drinking and Lung Cancer Risk: An Evaluation Based on a Systematic Review of Epidemiologic Evidence among the Japanese Population. *Jpn J Clin Oncol.* 2007 in press.

19) Kurahashi N, Tsugane S et al. Soy Product and Isoflavone Consumption in Relation to Prostate Cancer in Japanese Men. *Cancer Epidemiol Biomarkers Prev.* 2007 in press.

20) Marugame T, Tsugane S et al. Patterns of Alcohol Drinking and All-Cause Mortality: Results from a Large-Scale Population-based Cohort Study in Japan. *Am J Epidemiol.* 2007 in press.

2. 学会発表

1) 津金昌一郎： 科学的根拠に基づく日本人のがん予防：現状と将来、第79回日本産業衛生学会、平成18年5月9-12日、宮城県仙台市

2) 倉橋典絵、津金昌一郎他： Body Mass index(BMI)、身長と前立腺がんリスク：多目的コホート研究、第7回日本がん分子疫学研究会・第

29回日本がん疫学研究会合同学術集会、平成18年5月19-20日、広島市

3) 津金昌一郎： 喫煙習慣と関連がん：疫学的知見、平成18年度日本癌学会シンポジウム、平成18年7月29日、東京都

4) Shoichiro Tsugane: Dietary factors in gastrointestinal tract cancers - an Asian perspective: XV Medical Symposium of Yrjo Jahnsson Foundation, 9-11 August 2006, Helsinki, Finland

5) Takahashi Y, Tsugane S et al: Blood pressure change in a free-living population-based dietary modification study in Japan, I World Congress of Public Health Nutrition, 27 September 2006, Barcelona, Spain

6) 笹月静、津金昌一郎他： H.pylori菌感染、CagA、ペプシノーゲンレベルと胃がんとの関連：JPHC Studyにおけるコホート内症例・対照研究、第65回日本癌学会学術総会、平成18年9月28-30日、神奈川県横浜市

7) 大谷哲也、津金昌一郎他： 食物繊維摂取と大腸がんとの関連：JPHC Studyの結果より、第65回日本癌学会学術総会、平成18年9月28-30日、神奈川県横浜市

8) 津金昌一郎： 胃がん<シンポジウム：がん予防の最前線>、第44回日本癌治療学会総会、平成18年10月18-20日、東京都

9) 津金昌一郎： 予防のためのエビデンスを作る研究：コホート研究の実際、第4回日本予防医学会学術総会、平成18年12月1-2日、埼玉県さいたま市

H. 知的財産権の出願・登録状況

なし

表1-1 運動と余がんとの関連に関するコホート研究(エビデンスデータベース)

References Author	Year	List No.	Study period		Study population Number of subjects for analysis	Source of subjects	Event followed	Number of incident cases or deaths	Category	Number among cases	Relative risk (95%CI or p)	p for trend	Confounding variables considered	Comments
			(1)	(2)										
Toshima et al Jpn Heart J 1995;36:179-189	1995	(1)	1958-(25yrs)	1960-(25yrs)	1,010men (40-59 years old)	population	Death	129	heart rate (beats/min)		1.00 (0.98-1.02) (t=0.45)	N.S.	age, ciagarettes, SBP, serum cholesterol, BMI, area (Ushibuka or Tanushimaru)	Seven Countries Study Heart rate: average of rates measured in lead 1 and lead V6 of a standard 12- lead resting ECG.
Sawada et al Med Sci Sports Exerc 2003; 35: 1546-1550.	2003	(2)	1982-1999 (16 years)		9,039 men (19-59 years old)	Worksite (Tokyo Gas company)	Death	123 men	VO2 max Q1 (Lowest) Q2 Q3 Q4 (Highest) Smokers	50 36 20 17	1.00 0.75 (0.48-1.16) 0.43 (0.25-0.74) 0.41 (0.41-0.74)	<i>p</i> <0.001	Adjusted for age, BMI, SBP, alcohol habit, smoking habit.	Causes of death was obtained from next to the kin. VO2max (maximal oxygen uptake)(mL/kg/min): based on the heart rate obtained during submaximal exercise by cycle ergometer.
									Q1 (Lowest) Q2 Q3 Q4 (Highest) Never or former smokers	33 29 14 12	1.00 0.92 (0.55-1.53) 0.46 (0.24-0.87) 0.46 (0.23-0.93)	<i>p</i> =0.005		
									Q1 (Lowest) Q2 Q3 Q4 (Highest)	17 7 6 5	1.00 0.41 (0.17-1.00) 0.38 (0.14-0.99) 0.31 (0.11-0.89)	<i>p</i> =0.017		

表1-2 運動と全がんとの関連に関するコホート研究(サマリナーテーブル)

References		Study population							
Author	Year	(Ref. No.)	Study period	Sex	Number of subjects	Ranged age	Event	Number of incident cases or deaths (follow-up period)	Strength of association
Toshima	1995	(1)	1958(1960)- 1983(1985)	Men	1,010	40-59	Death	129	—(heart rate)
Sawada	2003	(2)	1982-1999	Men	9,039	19-59	Death	123	↓ ↓ ↓ (VO2max)

表I-3 心理社会的要因と全がんとの関連に関するコホート研究(エビデンステーブル)

References Author	Year List No.	Study population		Source of subjects	Event followed	Number of incident cases or deaths	Category	Number among cases	Relative risk (95%CI or p)	p for trend	Confounding variables considered	Comments
		Study period	Number of subjects for analysis									
Utoguchi et al J Epidemiol	1997 (1)	1987-1994	3,271 subjects 1,480men 1,791 women	population (Miyako Study)	death	76	SACL 0-2 (low) 3-6 (moderate) 7-17 (high stressful state)		1.0 1.5 (0.80-2.99) 1.3 (0.67-2.61)		Adjusted for sex, age, smoking, drinking, exercise and medical care use	Stress Arousal Checklist (SACL) : consisting of 17 items for stress; total score 0-2: low stressful state, 3-6: moderate stressful state, 7-17: high stressful state.
Nakaya et al J Natl Cancer Inst	2003 (2)	1990-1997 (7 years)	51921M+W (40-64 years)	population	Incidence	986	Extraversio Category1 2 3 4 Neuroticis Category1 2 3 4 Psychoticism Category1 2 3 4 Lie Category1 2 3 4	305 200 282 199 285 200 289 212 334 247 156 249 214 224 316 232	1.00 0.8 (0.7-1.0) 0.9 (0.8-1.1) 0.9 (0.7-1.1) 1.00 1.0 (0.8-1.2) 1.0 (0.9-1.2) 1.2 (1.0-1.4) 1.00 1.0 (0.8-1.2) 0.8 (0.6-0.9) 1.1 (0.9-1.3) 1.00 0.9 (0.7-1.1) 0.9 (0.8-1.1) 0.9 (0.7-1.0)		Adjusted for sex,age, BMI, alcohol habit, smoking habit,education, family history of cancer. P=0.3 p=0.0 →excluding first 3 years→p=0.43 p=0.9 p=0.1	extraversion: 外向性 neuroticism: 神 経質な傾向 psychotocism: 神経症的 lie:虚言癖 *BJC 2005 Nakaya et al. (Updated) ただし、全死亡のRRのみで、全がんの RRなし。
Hirokawa et al	2004 (3)	1992-1999	13,226 men 14,880 women	population (Takayama Study)	death	571	R/A personality score 0-5 6-8 9-11 0-5 6-8 9-11	104 143 103 51 101 69	1.00 0.67 (0.50- 0.85 (0.64- 1.00 0.87 (0.57- 1.16 (0.79- NS		Adjusted for age, smoking status, marital status, BMI, exercise, alcohol per week, hours of sleep, number of children, years of education.	Rationality/antiemotionality (R/A) personality scale: consisting of 11 items to assess characteristics such as rational thinking and repression of emotion

表II-2. Green tea and gastric cancer risk (Women)

	Green tea consumption				RR	(95%CI)
	<1cup/day	1-2cups/day	3-4cups/day	5+cups/day		
JPHC Cohort I (age 40-59, incidence)						
Number of subjects	5,305	3,247	3,825	4,130		
Person-years	60,494	37,148	43,788	47,730		
Number of cases	39	19	32	28		
Crude rate (per 100,000)	64.47	51.15	73.08	58.66		
Age- and area-adjusted	1.00 (Reference)	0.74 (0.43- 1.28)	0.90 (0.56- 1.46)	0.65 (0.39- 1.07)		
Multivariate-adjusted	1.00 (Reference)	0.65 (0.36- 1.17)	0.87 (0.53- 1.43)	0.56 (0.33- 0.96)		
JPHC Cohort II (age 40-69, incidence)						
Number of subjects	2,489	4,477	7,462	6,810		
Person-years	16,083	29,182	48,669	44,174		
Number of cases	9	23	47	28		
Crude rate (per 100,000)	55.96	78.82	96.57	63.39		
Age- and area-adjusted	1.00 (Reference)	1.48 (0.68- 3.20)	1.82 (0.89- 3.71)	1.15 (0.54- 2.43)		
Multivariate-adjusted	1.00 (Reference)	1.45 (0.64- 3.31)	1.58 (0.73- 3.40)	1.00 (0.44- 2.23)		
Miyagi (age 40-64, incidence)						
Number of subjects	5,878	4,799	4,509	5,410		
Person-years	64,877	53,319	50,046	59,918		
Number of cases	51	35	42	45		
Crude rate (per 100,000)	78.61	65.64	83.92	75.10		
Age- and area-adjusted	1.00 (Reference)	0.83 (0.54- 1.28)	0.96 (0.64- 1.45)	0.78 (0.52- 1.17)		
Multivariate-adjusted	1.00 (Reference)	0.79 (0.51- 1.22)	0.86 (0.56- 1.30)	0.64 (0.42- 0.97)		
Three-prefecture-Miyagi (age 40-64, incidence)						
Number of subjects	2,614	2,375	3,235	6,185		
Person-years	19,593	18,202	24,833	48,758		
Number of cases	25	19	24	55		
Crude rate (per 100,000)	127.59	104.39	96.65	112.80		
Age- and area-adjusted	1.00 (Reference)	0.83 (0.46- 1.50)	0.74 (0.42- 1.30)	0.84 (0.52- 1.34)		
Multivariate-adjusted	1.00 (Reference)	0.84 (0.46- 1.53)	0.73 (0.41- 1.30)	0.82 (0.50- 1.33)		
Takayama (age 35+, death)						
Number of subjects	5,908	1,613	7,094	1,809		
Person-years	41,166	11,275	49,610	12,621		
Number of cases	21	1	12	6		
Crude rate (per 100,000)	51.01	8.87	24.19	47.54		
Age- and area-adjusted	1.00 (Reference)	0.27 (0.04- 2.00)	0.44 (0.21- 0.89)	0.75 (0.30- 1.86)		
Multivariate-adjusted	1.00 (Reference)	0.21 (0.03- 1.59)	0.44 (0.22- 0.90)	0.73 (0.29- 1.81)		
JACC (age 40-79, incidence)						
Number of subjects	5,463	4,117	8,098	13,038		
Person-years	38,665	30,238	58,805	101,014		
Number of cases	50	40	72	129		
Crude rate (per 100,000)	129.32	132.28	122.44	127.70		
Age- and area-adjusted	1.00 (Reference)	1.02 (0.67- 1.56)	0.88 (0.61- 1.27)	0.88 (0.62- 1.25)		
Multivariate-adjusted	1.00 (Reference)	1.00 (0.66- 1.53)	0.86 (0.60- 1.25)	0.86 (0.61- 1.22)		
Meta-analysis						
Number of subjects	27,657	20,628	34,223	37,382		
Person-years	240,878	179,364	275,750	314,215		
Number of cases	195	137	229	291		
Crude rate (per 100,000)	80.95	76.38	83.05	92.61		
(Fixed effect model)						
Age- and area-adjusted	1.00 (Reference)	0.9 (0.71- 1.13)	0.88 (0.72- 1.08)	0.82 (0.67- 0.996)		
Multivariate-adjusted	1.00 (Reference)	0.86 (0.68- 1.08)	0.83 (0.68- 1.02)	0.75 (0.61- 0.92)		
(Random effect model)						
Age- and area-adjusted	1.00 (Reference)	0.9 (0.71- 1.13)	0.88 (0.67- 1.15)	0.82 (0.67- 0.996)		
Multivariate-adjusted	1.00 (Reference)	0.86 (0.68- 1.08)	0.83 (0.66- 1.05)	0.75 (0.61- 0.92)		

表II-1. Green tea and gastric cancer risk (Men)

	Green tea consumption				RR	(95%CI)
	<1cup/day	1-2cups/day	3-4cups/day	5+cups/day		
JPHC Cohort I (age 40-59, incidence)						
Number of subjects	4,379	3,183	3,624	3,942		
Person-years	48,611	35,064	40,162	44,104		
Number of cases	91	62	81	120		
Crude rate (per 100,000)	187.20	176.82	201.68	272.08		
Age- and area-adjusted	1.00 (Reference)	0.87 (0.63- 1.20)	0.87 (0.64- 1.18)	1.01 (0.76- 1.34)		
Multivariate-adjusted	1.00 (Reference)	0.88 (0.63- 1.23)	0.83 (0.60- 1.14)	1.03 (0.77- 1.39)		
JPHC Cohort II (age 40-69, incidence)						
Number of subjects	2,763	5,028	6,316	5,293		
Person-years	17,310	31,775	40,106	33,346		
Number of cases	35	72	95	105		
Crude rate (per 100,000)	202.20	226.59	236.87	314.88		
Age- and area-adjusted	1.00 (Reference)	1.13 (0.76- 1.70)	1.16 (0.79- 1.71)	1.42 (0.97- 2.09)		
Multivariate-adjusted	1.00 (Reference)	1.04 (0.68- 1.59)	0.86 (0.57- 1.31)	0.88 (0.58- 1.34)		
Miyagi (age 40-64, incidence)						
Number of subjects	5,639	4,559	4,028	4,781		
Person-years	60,959	49,453	43,837	51,792		
Number of cases	111	82	79	116		
Crude rate (per 100,000)	182.09	165.81	180.21	223.97		
Age- and area-adjusted	1.00 (Reference)	0.94 (0.70- 1.25)	0.89 (0.67- 1.19)	0.93 (0.72- 1.22)		
Multivariate-adjusted	1.00 (Reference)	0.87 (0.65- 1.17)	0.86 (0.64- 1.16)	0.86 (0.66- 1.14)		
Three-prefecture-Miyagi (age 40-64, incidence)						
Number of subjects	2,253	2,194	2,585	4,870		
Person-years	16,979	15,927	18,915	36,541		
Number of cases	41	49	55	131		
Crude rate (per 100,000)	241.47	307.66	290.77	413.24		
Age- and area-adjusted	1.00 (Reference)	1.28 (0.85- 1.94)	1.16 (0.77- 1.73)	1.59 (1.13- 2.24)		
Multivariate-adjusted	1.00 (Reference)	1.25 (0.82- 1.92)	1.15 (0.76- 1.75)	1.50 (1.04- 2.14)		
Takayama (age 35+, death)						
Number of subjects	7,231	1,420	4,071	1,158		
Person-years	49,131	9,616	27,711	7,822		
Number of cases	46	6	22	7		
Crude rate (per 100,000)	93.63	62.40	79.39	89.49		
Age- and area-adjusted	1.00 (Reference)	1.10 (0.47- 2.58)	0.90 (0.54- 1.50)	0.74 (0.34- 1.65)		
Multivariate-adjusted	1.00 (Reference)	1.09 (0.46- 2.57)	0.89 (0.53- 1.48)	0.70 (0.32- 1.56)		
JACC (age 40-79, incidence)						
Number of subjects	3,233	3,424	5,232	9,563		
Person-years	23,337	25,628	38,385	74,631		
Number of cases	70	78	106	258		
Crude rate (per 100,000)	299.96	304.35	276.15	345.70		
Age- and area-adjusted	1.00 (Reference)	0.95 (0.68- 1.32)	0.78 (0.57- 1.06)	0.87 (0.65- 1.15)		
Multivariate-adjusted	1.00 (Reference)	0.92 (0.66- 1.28)	0.76 (0.56- 1.03)	0.84 (0.63- 1.11)		
Meta-analysis						
Number of subjects	25,498	19,808	25,856	29,607		
Person-years	216,327	167,463	209,116	248,236		
Number of cases	394	349	438	757		
Crude rate (per 100,000)	182.13	208.40	209.45	304.95		
(Fixed effect model)						
Age- and area-adjusted	1.00 (Reference)	0.99 (0.85- 1.15)	0.92 (0.80- 1.06)	1.06 (0.93- 1.21)		
Multivariate-adjusted	1.00 (Reference)	0.95 (0.82- 1.11)	0.86 (0.74- 0.997)	0.96 (0.84- 1.11)		
(Random effect model)						
Age- and area-adjusted	1.00 (Reference)	0.99 (0.85- 1.15)	0.92 (0.80- 1.06)	1.08 (0.87- 1.33)		
Multivariate-adjusted	1.00 (Reference)	0.95 (0.82- 1.11)	0.86 (0.74- 0.997)	0.97 (0.80- 1.17)		

Table 3. Green tea and gastric cancer risk (Current smoker, Men)

	Green tea consumption			
	<1temp/day	1-2temp/day	3-4temp/day	5+temp/day
	RR	RR (95%CI)	RR (95%CI)	RR (95%CI)
JPHC Cohort I (age 40-59, incidence)				
Number of subjects	2,382	1,730	2,001	2,307
Person-years	26,280	18,949	22,143	25,631
Number of cases	48	41	49	73
Crude rate (per 100,000)	182.65	216.37	221.29	284.81
Age- and area-adjusted	1.00 (Reference)	1.12 (0.74- 1.70)	0.97 (0.65- 1.46)	1.07 (0.73- 1.56)
Multivariate-adjusted	1.00 (Reference)	1.10 (0.72- 1.69)	0.91 (0.60- 1.38)	1.09 (0.74- 1.60)
JPHC Cohort II (age 40-69, incidence)				
Number of subjects	1,561	2,810	3,371	2,912
Person-years	9,761	17,778	21,421	18,255
Number of cases	21	36	55	64
Crude rate (per 100,000)	215.14	202.50	256.76	350.59
Age- and area-adjusted	1.00 (Reference)	0.95 (0.56- 1.63)	1.17 (0.71- 1.94)	1.48 (0.90- 2.44)
Multivariate-adjusted	1.00 (Reference)	0.90 (0.50- 1.60)	0.95 (0.55- 1.65)	0.92 (0.53- 1.60)
Miyagi (age 40-64, incidence)				
Number of subjects	3,286	2,686	2,338	2,977
Person-years	35,373	29,023	25,482	31,978
Number of cases	71	52	54	75
Crude rate (per 100,000)	200.72	179.17	212.16	234.54
Age- and area-adjusted	1.00 (Reference)	0.89 (0.62- 1.27)	0.93 (0.65- 1.33)	0.84 (0.60- 1.16)
Multivariate-adjusted	1.00 (Reference)	0.85 (0.59- 1.22)	0.93 (0.65- 1.34)	0.82 (0.58- 1.15)
Three-prefecture-Miyagi (age 40-64, incidence)				
Number of subjects	841	900	1,063	2,207
Person-years	6,376	6,490	7,801	16,550
Number of cases	12	18	25	68
Crude rate (per 100,000)	188.21	277.35	320.47	410.88
Age- and area-adjusted	1.00 (Reference)	1.52 (0.73- 3.15)	1.57 (0.79- 3.14)	1.90 (1.03- 3.51)
Multivariate-adjusted	1.00 (Reference)	1.65 (0.78- 3.48)	1.67 (0.83- 3.39)	2.00 (1.06- 3.77)
Takayama (age 35+, death)				
Number of subjects	3,741	785	2,091	617
Person-years	25,717	5,331	14,335	4,164
Number of cases	25	4	11	3
Crude rate (per 100,000)	97.21	75.03	76.74	72.05
Age- and area-adjusted	1.00 (Reference)	1.69 (0.58- 4.94)	0.94 (0.46- 1.91)	0.54 (0.16- 1.78)
Multivariate-adjusted	1.00 (Reference)	1.67 (0.57- 4.88)	0.95 (0.46- 1.93)	0.52 (0.16- 1.74)
JACC (age 40-79, incidence)				
Number of subjects	1,574	1,781	2,515	4,875
Person-years	11,675	13,540	18,710	38,098
Number of cases	35	45	48	123
Crude rate (per 100,000)	299.78	332.55	256.54	322.85
Age- and area-adjusted	1.00 (Reference)	0.97 (0.61- 1.52)	0.71 (0.45- 1.10)	0.78 (0.52- 1.16)
Multivariate-adjusted	1.00 (Reference)	0.92 (0.59- 1.45)	0.68 (0.44- 1.06)	0.76 (0.51- 1.13)
Meta-analysis				
Number of subjects	13,385	10,602	13,379	15,895
Person-years	115,182	91,111	109,862	134,676
Number of cases	212	196	242	406
Crude rate (per 100,000)	184.06	215.12	220.28	301.46
(Fixed effect model)				
Age- and area-adjusted	1.00 (Reference)	1.03 (0.84- 1.25)	0.96 (0.79- 1.16)	1 (0.84- 1.20)
Multivariate-adjusted	1.00 (Reference)	0.98 (0.81- 1.22)	0.91 (0.75- 1.11)	0.94 (0.78- 1.13)
(Random effect model)				
Age- and area-adjusted	1.00 (Reference)	1.03 (0.84- 1.25)	0.96 (0.79- 1.16)	1.04 (0.79- 1.38)
Multivariate-adjusted	1.00 (Reference)	0.98 (0.81- 1.22)	0.91 (0.75- 1.11)	0.96 (0.73- 1.25)

Table 4. Green tea and gastric cancer risk (never or past smoker, Men)

	Green tea consumption			
	<1temp/day	1-2temp/day	3-4temp/day	5+temp/day
	RR	RR (95%CI)	RR (95%CI)	RR (95%CI)
JPHC Cohort I (age 40-59, incidence)				
Number of subjects	1,997	1,453	1,623	1,635
Person-years	22,331	16,114	18,019	18,473
Number of cases	43	21	32	47
Crude rate (per 100,000)	192.56	130.32	177.59	254.43
Age- and area-adjusted	1.00 (Reference)	0.61 (0.36- 1.03)	0.74 (0.45- 1.19)	0.91 (0.59- 1.40)
Multivariate-adjusted	1.00 (Reference)	0.64 (0.37- 1.09)	0.73 (0.45- 1.19)	0.97 (0.61- 1.53)
JPHC Cohort II (age 40-69, incidence)				
Number of subjects	1,202	2,218	2,945	2,381
Person-years	7,549	13,997	18,685	15,091
Number of cases	14	36	40	41
Crude rate (per 100,000)	185.46	257.20	214.08	271.69
Age- and area-adjusted	1.00 (Reference)	1.40 (0.76- 2.60)	1.15 (0.63- 2.12)	1.34 (0.73- 2.47)
Multivariate-adjusted	1.00 (Reference)	1.23 (0.66- 2.29)	0.77 (0.41- 1.45)	0.85 (0.45- 1.60)
Miyagi (age 40-64, incidence)				
Number of subjects	2,180	1,797	1,616	1,704
Person-years	23,692	19,574	17,597	18,704
Number of cases	38	29	22	41
Crude rate (per 100,000)	160.39	148.16	125.02	219.20
Age- and area-adjusted	1.00 (Reference)	0.99 (0.61- 1.60)	0.72 (0.43- 1.23)	1.10 (0.70- 1.71)
Multivariate-adjusted	1.00 (Reference)	0.92 (0.56- 1.50)	0.69 (0.40- 1.18)	1.08 (0.68- 1.72)
Three-prefecture-Miyagi (age 40-64, incidence)				
Number of subjects	891	813	1,035	1,882
Person-years	6,610	5,771	7,495	11,911
Number of cases	13	17	16	45
Crude rate (per 100,000)	196.68	294.57	213.49	377.81
Age- and area-adjusted	1.00 (Reference)	1.49 (0.72- 3.07)	1.04 (0.50- 2.16)	1.83 (0.98- 3.38)
Multivariate-adjusted	1.00 (Reference)	1.36 (0.65- 2.86)	0.88 (0.41- 1.87)	1.60 (0.84- 3.05)
Takayama (age 35+, death)				
Number of subjects	3,214	612	1,907	513
Person-years	21,660	4,130	12,862	3,469
Number of cases	20	2	11	4
Crude rate (per 100,000)	92.34	48.43	85.52	115.31
Age- and area-adjusted	1.00 (Reference)	0.74 (0.17- 3.17)	0.92 (0.44- 1.92)	0.99 (0.34- 2.91)
Multivariate-adjusted	1.00 (Reference)	0.70 (0.16- 3.00)	0.89 (0.42- 1.85)	1.01 (0.34- 2.96)
JACC (age 40-79, incidence)				
Number of subjects	1,541	1,491	2,501	4,276
Person-years	10,809	10,924	18,124	33,307
Number of cases	31	32	48	121
Crude rate (per 100,000)	286.79	292.92	264.84	363.29
Age- and area-adjusted	1.00 (Reference)	1.03 (0.62- 1.70)	0.81 (0.51- 1.28)	1.00 (0.65- 1.52)
Multivariate-adjusted	1.00 (Reference)	1.04 (0.62- 1.72)	0.80 (0.50- 1.27)	0.98 (0.64- 1.49)
Meta-analysis				
Number of subjects	11,025	8,384	11,627	12,091
Person-years	92,651	70,510	92,782	100,955
Number of cases	159	137	169	299
Crude rate (per 100,000)	171.61	194.30	182.15	296.17
(Fixed effect model)				
Age- and area-adjusted	1.00 (Reference)	0.99 (0.77- 1.26)	0.85 (0.67- 1.06)	1.11 (0.90- 1.37)
Multivariate-adjusted	1.00 (Reference)	0.95 (0.74- 1.22)	0.77 (0.61- 0.98)	1.04 (0.84- 1.29)
(Random effect model)				
Age- and area-adjusted	1.00 (Reference)	0.99 (0.76- 1.30)	0.85 (0.67- 1.06)	1.11 (0.90- 1.37)
Multivariate-adjusted	1.00 (Reference)	0.95 (0.74- 1.22)	0.77 (0.61- 0.98)	1.04 (0.84- 1.29)

表II-5. Green tea and gastric cancer risk (Current smoker, women)

	Green tea consumption	
	<1cup/day	1+cup/day (95%CI)
JPHC Cohort I (age 40-59, incidence)		
Number of subjects	277	560
Person-years	2,978	6,168
Number of cases	1	4
Crude rate (per 100,000)	33.58	64.85
Age- and area-adjusted	1.00 (Reference)	1.83 (0.20- 16.56)
Multivariate-adjusted	1.00 (Reference)	1.91 (0.16- 23.39)
JPHC Cohort II (age 40-69, incidence)		
Number of subjects	234	1,132
Person-years	1,611	7,068
Number of cases	1	8
Crude rate (per 100,000)	62.07	113.19
Age- and area-adjusted	1.00 (Reference)	0.95 (0.24- 15.77)
Multivariate-adjusted	1.00 (Reference)	0.76 (0.07- 8.30)
Miyagi (age 40-64, incidence)		
Number of subjects	712	646
Person-years	7,677	6,879
Number of cases	7	5
Crude rate (per 100,000)	91.18	72.68
Age- and area-adjusted	1.00 (Reference)	0.68 (0.21- 2.22)
Multivariate-adjusted	1.00 (Reference)	NA
Three-prefecture-Miyagi (age 40-64, incidence)		
Number of subjects	152	783
Person-years	1,104	5,717
Number of cases	2	4
Crude rate (per 100,000)	181.22	69.97
Age- and area-adjusted	1.00 (Reference)	0.38 (0.07- 2.14)
Multivariate-adjusted	1.00 (Reference)	NA
JACC (age 40-79, incidence)		
Number of subjects	322	1,190
Person-years	2,264	8,825
Number of cases	3	10
Crude rate (per 100,000)	132.52	113.31
Age- and area-adjusted	1.00 (Reference)	0.60 (0.16- 2.32)
Multivariate-adjusted	1.00 (Reference)	0.54 (0.14- 2.15)
Meta-analysis		
Number of subjects	1,697	4,311
Person-years	15,633	34,657
Number of cases	14	31
Crude rate (per 100,000)	89.55	89.45
(Fixed effect model)		
Age- and area-adjusted	1.00 (Reference)	0.67 (0.33- 1.38)
Multivariate-adjusted	1.00 (Reference)	0.73 (0.25- 2.15)
(Random effect model)		
Age- and area-adjusted	1.00 (Reference)	0.67 (0.33- 1.38)
Multivariate-adjusted	1.00 (Reference)	0.73 (0.25- 2.15)

表 II-6. Green tea and gastric cancer risk (never or past smoker, women)

	Green tea consumption					
	<1cup/day	1-2cups/day (95%CI)	3-4cups/day (95%CI)	5+ cups/day (95%CI)	RR	RR (95%CI)
JPHC Cohort I (age 40-59, incidence)						
Number of subjects	5,028	3,084	3,675	3,883		
Person-years	57,516	35,361	42,162	44,975		
Number of cases	38	18	30	27		
Crude rate (per 100,000)	66.07	50.90	71.15	60.03		
Age- and area-adjusted	1.00 (Reference)	0.72 (0.41- 1.26)	0.85 (0.52- 1.39)	0.63 (0.38- 1.06)		
Multivariate-adjusted	1.00 (Reference)	0.62 (0.34- 1.15)	0.81 (0.49- 1.36)	0.54 (0.32- 0.94)		
JPHC Cohort II (age 40-69, incidence)						
Number of subjects	2,255	4,186	7,074	6,357		
Person-years	14,613	27,376	46,231	41,351		
Number of cases	8	21	42	26		
Crude rate (per 100,000)	54.75	76.71	90.85	62.88		
Age- and area-adjusted	1.00 (Reference)	1.48 (0.65- 3.33)	1.75 (0.82- 3.73)	1.21 (0.55- 2.67)		
Multivariate-adjusted	1.00 (Reference)	1.61 (0.68- 3.82)	1.55 (0.68- 3.50)	1.11 (0.48- 2.60)		
Miyagi (age 40-64, incidence)						
Number of subjects	4,179	3,436	3,263	3,706		
Person-years	46,250	38,097	36,210	41,088		
Number of cases	32	24	30	29		
Crude rate (per 100,000)	69.19	63.00	82.85	70.58		
Age- and area-adjusted	1.00 (Reference)	0.91 (0.54- 1.55)	1.09 (0.66- 1.80)	0.83 (0.50- 1.39)		
Multivariate-adjusted	1.00 (Reference)	0.88 (0.51- 1.50)	1.00 (0.60- 1.67)	0.75 (0.44- 1.27)		
Three-prefecture-Miyagi (age 40-64, incidence)						
Number of subjects	1,749	1,636	2,268	3,961		
Person-years	13,090	12,466	17,246	31,215		
Number of cases	17	15	17	37		
Crude rate (per 100,000)	129.87	120.33	98.57	118.53		
Age- and area-adjusted	1.00 (Reference)	0.94 (0.47- 1.87)	0.75 (0.38- 1.46)	0.86 (0.49- 1.53)		
Multivariate-adjusted	1.00 (Reference)	1.00 (0.50- 2.02)	0.78 (0.39- 1.54)	0.88 (0.48- 1.59)		
Takayama (age 35+, death)						
Number of subjects	4,528	1,276	5,568	1,420		
Person-years	31,637	8,911	38,987	9,930		
Number of cases	16	1	11	5		
Crude rate (per 100,000)	50.57	11.22	28.21	50.35		
Age- and area-adjusted	1.00 (Reference)	0.35 (0.05- 2.63)	0.56 (0.26- 1.20)	0.83 (0.31- 2.28)		
Multivariate-adjusted	1.00 (Reference)	0.26 (0.03- 1.98)	0.54 (0.25- 1.17)	0.82 (0.30- 2.26)		
JACC (age 40-79, incidence)						
Number of subjects	4,539	3,492	6,910	11,349		
Person-years	32,661	26,090	51,358	88,889		
Number of cases	43	33	61	109		
Crude rate (per 100,000)	131.66	126.48	118.77	122.62		
Age- and area-adjusted	1.00 (Reference)	0.98 (0.62- 1.56)	0.86 (0.58- 1.28)	0.85 (0.58- 1.24)		
Multivariate-adjusted	1.00 (Reference)	0.98 (0.62- 1.55)	0.85 (0.57- 1.27)	0.85 (0.58- 1.24)		
Meta-analysis						
Number of subjects	22,278	17,110	28,758	30,676		
Person-years	195,767	148,301	232,194	257,448		
Number of cases	154	112	191	233		
Crude rate (per 100,000)	78.67	75.52	82.26	90.50		
(Fixed effect model)						
Age- and area-adjusted	1.00 (Reference)	0.92 (0.71- 1.19)	0.91 (0.73- 1.13)	0.82 (0.66- 1.03)		
Multivariate-adjusted	1.00 (Reference)	0.9 (0.69- 1.17)	0.87 (0.69- 1.09)	0.79 (0.63- 0.99)		
(Random effect model)						
Age- and area-adjusted	1.00 (Reference)	0.92 (0.71- 1.19)	0.91 (0.72- 1.15)	0.82 (0.66- 1.03)		
Multivariate-adjusted	1.00 (Reference)	0.9 (0.69- 1.17)	0.87 (0.69- 1.09)	0.79 (0.63- 0.99)		

表1-7. Green tea and gastric cancer risk (Upper-third, Men)

	Green tea consumption				
	<1cup/day	1-2cups/day	3-4cups/day	5+ cups/day	
	RR	RR (95%CI)	RR	RR (95%CI)	RR (95%CI)
JPHC Cohort I (age 40-59, incidence)					
Number of subjects	4,379	3,183	3,624	3,942	3,942
Person-years	48,611	35,064	40,162	44,104	44,104
Number of cases	10	9	6	17	17
Crude rate (per 100,000)	20.57	25.67	14.94	38.55	38.55
Age- and area-adjusted	1.00 (Reference)	1.12 (0.45- 2.76)	0.56 (0.20- 1.55)	1.22 (0.54- 2.75)	1.22 (0.54- 2.75)
Multivariate-adjusted	1.00 (Reference)	1.06 (0.43- 2.63)	0.55 (0.20- 1.52)	1.15 (0.50- 2.65)	1.15 (0.50- 2.65)
JPHC Cohort II (age 40-69, incidence)					
Number of subjects	2,763	5,028	6,316	5,293	5,293
Person-years	17,310	31,775	40,106	33,346	33,346
Number of cases	4	9	15	18	18
Crude rate (per 100,000)	23.11	28.32	37.40	53.98	53.98
Age- and area-adjusted	1.00 (Reference)	1.26 (0.39- 4.09)	1.63 (0.54- 4.91)	2.13 (0.72- 6.32)	2.13 (0.72- 6.32)
Multivariate-adjusted	1.00 (Reference)	1.05 (0.32- 3.51)	1.06 (0.34- 3.33)	1.21 (0.39- 3.78)	1.21 (0.39- 3.78)
Miyagi (age 40-64, incidence)					
Number of subjects	5,639	4,559	4,028	4,781	4,781
Person-years	60,959	49,453	43,837	51,792	51,792
Number of cases	14	13	6	22	22
Crude rate (per 100,000)	22.97	26.29	13.69	42.48	42.48
Age- and area-adjusted	1.00 (Reference)	1.19 (0.56- 2.52)	0.52 (0.20- 1.35)	1.30 (0.66- 2.56)	1.30 (0.66- 2.56)
Multivariate-adjusted	1.00 (Reference)	1.03 (0.48- 2.24)	0.49 (0.18- 1.32)	1.12 (0.55- 2.30)	1.12 (0.55- 2.30)
Three-prefecture-Miyagi (age 40-64, incidence)					
Number of subjects	2,253	2,194	2,585	4,870	4,870
Person-years	16,979	15,927	18,915	36,541	36,541
Number of cases	8	6	6	27	27
Crude rate (per 100,000)	47.12	37.67	31.72	73.89	73.89
Age- and area-adjusted	1.00 (Reference)	0.80 (0.28- 2.31)	0.65 (0.23- 1.88)	1.47 (0.67- 3.24)	1.47 (0.67- 3.24)
Multivariate-adjusted	1.00 (Reference)	0.86 (0.29- 2.53)	0.69 (0.23- 2.06)	1.47 (0.64- 3.39)	1.47 (0.64- 3.39)
Meta-analysis					
Number of subjects	15,034	14,964	16,553	18,886	18,886
Person-years	143,859	132,219	143,020	165,783	165,783
Number of cases	36	37	33	84	84
Crude rate (per 100,000)	25.02	27.98	23.07	50.67	50.67
(Fixed effect model)					
Age- and area-adjusted	1.00 (Reference)	1.09 (0.69- 1.74)	0.72 (0.43- 1.20)	1.41 (0.94- 2.12)	1.41 (0.94- 2.12)
Multivariate-adjusted	1.00 (Reference)	1.01 (0.62- 1.62)	0.65 (0.38- 1.09)	1.22 (0.80- 1.87)	1.22 (0.80- 1.87)
(Random effect model)					
Age- and area-adjusted	1.00 (Reference)	1.09 (0.69- 1.74)	0.72 (0.43- 1.20)	1.41 (0.94- 2.12)	1.41 (0.94- 2.12)
Multivariate-adjusted	1.00 (Reference)	1.01 (0.62- 1.62)	0.65 (0.38- 1.09)	1.22 (0.80- 1.87)	1.22 (0.80- 1.87)

表1-8. Green tea and gastric cancer risk (Distal, Men)

	Green tea consumption				
	<1cup/day	1-2cups/day	3-4cups/day	5+ cups/day	
	RR	RR (95%CI)	RR	RR (95%CI)	RR (95%CI)
JPHC Cohort I (age 40-59, incidence)					
Number of subjects	4,379	3,183	3,624	3,942	3,942
Person-years	48,611	35,064	40,162	44,104	44,104
Number of cases	67	40	60	83	83
Crude rate (per 100,000)	137.83	114.08	149.39	188.19	188.19
Age- and area-adjusted	1.00 (Reference)	0.75 (0.50- 1.10)	0.85 (0.60- 1.21)	0.92 (0.66- 1.29)	0.92 (0.66- 1.29)
Multivariate-adjusted	1.00 (Reference)	0.78 (0.52- 1.16)	0.78 (0.54- 1.13)	0.96 (0.68- 1.36)	0.96 (0.68- 1.36)
JPHC Cohort II (age 40-69, incidence)					
Number of subjects	2,763	5,028	6,316	5,293	5,293
Person-years	17,310	31,775	40,106	33,346	33,346
Number of cases	25	51	62	69	69
Crude rate (per 100,000)	144.43	160.50	154.59	206.92	206.92
Age- and area-adjusted	1.00 (Reference)	1.13 (0.70- 1.82)	1.06 (0.67- 1.69)	1.26 (0.79- 1.99)	1.26 (0.79- 1.99)
Multivariate-adjusted	1.00 (Reference)	1.08 (0.65- 1.79)	0.82 (0.50- 1.36)	0.82 (0.50- 1.36)	0.82 (0.50- 1.36)
Miyagi (age 40-64, incidence)					
Number of subjects	5,639	4,559	4,028	4,781	4,781
Person-years	60,959	49,453	43,837	51,792	51,792
Number of cases	49	34	41	51	51
Crude rate (per 100,000)	80.38	68.75	93.53	98.47	98.47
Age- and area-adjusted	1.00 (Reference)	0.88 (0.57- 1.36)	1.07 (0.71- 1.62)	0.97 (0.66- 1.45)	0.97 (0.66- 1.45)
Multivariate-adjusted	1.00 (Reference)	0.82 (0.52- 1.27)	1.01 (0.66- 1.55)	0.90 (0.60- 1.38)	0.90 (0.60- 1.38)
Three-prefecture-Miyagi (age 40-64, incidence)					
Number of subjects	2,253	2,194	2,585	4,870	4,870
Person-years	16,979	15,927	18,915	36,541	36,541
Number of cases	22	22	28	75	75
Crude rate (per 100,000)	129.57	138.13	148.03	205.25	205.25
Age- and area-adjusted	1.00 (Reference)	1.07 (0.60- 1.94)	1.11 (0.64- 1.95)	1.50 (0.93- 2.41)	1.50 (0.93- 2.41)
Multivariate-adjusted	1.00 (Reference)	0.98 (0.54- 1.79)	1.02 (0.58- 1.82)	1.33 (0.81- 2.18)	1.33 (0.81- 2.18)
Meta-analysis					
Number of subjects	15,034	14,964	16,553	18,886	18,886
Person-years	143,859	132,219	143,020	165,783	165,783
Number of cases	163	147	191	278	278
Crude rate (per 100,000)	113.31	111.18	133.55	167.69	167.69
(Fixed effect model)					
Age- and area-adjusted	1.00 (Reference)	0.91 (0.72- 1.14)	0.99 (0.79- 1.22)	1.09 (0.89- 1.33)	1.09 (0.89- 1.33)
Multivariate-adjusted	1.00 (Reference)	0.88 (0.69- 1.11)	0.88 (0.70- 1.11)	0.98 (0.79- 1.21)	0.98 (0.79- 1.21)
(Random effect model)					
Age- and area-adjusted	1.00 (Reference)	0.91 (0.72- 1.14)	0.99 (0.79- 1.22)	1.09 (0.89- 1.36)	1.09 (0.89- 1.36)
Multivariate-adjusted	1.00 (Reference)	0.88 (0.69- 1.11)	0.88 (0.70- 1.11)	0.98 (0.79- 1.21)	0.98 (0.79- 1.21)

表11-9. Green tea and gastric cancer risk (Upper-third, women)

	Green tea consumption	
	<1cup/day	1+ cups/day RR (95%CI)
JPHC Cohort I (age 40-59, incidence)		
Number of subjects	5,305	11,202
Person-years	60,494	128,666
Number of cases	3	9
Crude rate (per 100,000)	4.96	6.99
Age- and area-adjusted	1.00 (Reference)	1.12 (0.29- 4.36)
Multivariate-adjusted	1.00 (Reference)	0.96 (0.24- 3.82)
Miyagi (age 40-64, incidence)		
Number of subjects	5,878	14,718
Person-years	64,877	163,283
Number of cases	3	11
Crude rate (per 100,000)	4.62	6.74
Age- and area-adjusted	1.00 (Reference)	0.89 (0.31- 2.58)
Multivariate-adjusted	1.00 (Reference)	0.69 (0.21- 2.33)
Three-prefecture-Miyagi (age 40-64, incidence)		
Number of subjects	2,614	11,795
Person-years	19,593	91,792
Number of cases	2	11
Crude rate (per 100,000)	10.21	11.98
Age- and area-adjusted	1.00 (Reference)	1.14 (0.25- 5.15)
Multivariate-adjusted	1.00 (Reference)	1.10 (0.22- 5.44)
Meta-analysis		
Number of subjects	13,797	37,715
Person-years	144,964	383,741
Number of cases	8	31
Crude rate (per 100,000)	5.52	8.08
(Fixed effect model)		
Age- and area-adjusted	1.00 (Reference)	1.01 (0.48- 2.10)
Multivariate-adjusted	1.00 (Reference)	0.86 (0.39- 1.91)
(Random effect model)		
Age- and area-adjusted	1.00 (Reference)	1.01 (0.48- 2.10)
Multivariate-adjusted	1.00 (Reference)	0.86 (0.39- 1.91)

表11-10. Green tea and gastric cancer risk (Distal, Women)

	Green tea consumption			
	<1cup/day	1-2cups/day RR (95%CI)	3-4cups/day RR (95%CI)	5+ cups/day RR (95%CI)
JPHC Cohort I (age 40-59, incidence)				
Number of subjects	5,305	3,247	3,825	4,130
Person-years	60,494	37,148	43,788	47,730
Number of cases	30	16	26	16
Crude rate (per 100,000)	49.59	43.07	59.38	33.52
Age- and area-adjusted	1.00 (Reference)	0.78 (0.42- 1.43)	0.89 (0.52- 1.53)	0.45 (0.24- 0.84)
Multivariate-adjusted	1.00 (Reference)	0.71 (0.37- 1.35)	0.84 (0.48- 1.47)	0.40 (0.21- 0.76)
JPHC Cohort II (age 40-69, incidence)				
Number of subjects	2,489	4,477	7,462	6,810
Person-years	16,083	29,182	48,669	44,174
Number of cases	8	18	36	19
Crude rate (per 100,000)	49.74	61.68	73.97	43.01
Age- and area-adjusted	1.00 (Reference)	1.32 (0.57- 3.04)	1.58 (0.73- 3.40)	0.86 (0.37- 1.97)
Multivariate-adjusted	1.00 (Reference)	1.34 (0.55- 3.28)	1.46 (0.63- 3.35)	0.81 (0.33- 1.98)
Miyagi (age 40-64, incidence)				
Number of subjects	5,878	4,799	4,509	5,410
Person-years	64,877	53,319	50,046	59,918
Number of cases	19	12	17	24
Crude rate (per 100,000)	29.29	22.51	33.97	40.05
Age- and area-adjusted	1.00 (Reference)	0.76 (0.37- 1.57)	1.05 (0.54- 2.02)	1.12 (0.61- 2.10)
Multivariate-adjusted	1.00 (Reference)	0.68 (0.33- 1.42)	0.86 (0.44- 1.69)	0.87 (0.46- 1.66)
Three-prefecture-Miyagi (age 40-64, incidence)				
Number of subjects	2,614	2,275	3,235	6,185
Person-years	19,593	18,202	24,833	48,758
Number of cases	13	12	14	28
Crude rate (per 100,000)	66.35	65.93	56.38	57.43
Age- and area-adjusted	1.00 (Reference)	1.00 (0.46- 2.20)	0.84 (0.39- 1.78)	0.83 (0.43- 1.60)
Multivariate-adjusted	1.00 (Reference)	1.04 (0.47- 2.30)	0.85 (0.39- 1.85)	0.88 (0.44- 1.73)
Meta-analysis				
Number of subjects	16,286	14,898	19,031	22,535
Person-years	161,047	137,851	167,336	200,580
Number of cases	70	58	93	87
Crude rate (per 100,000)	43.47	42.07	55.58	43.37
(Fixed effect model)				
Age- and area-adjusted	1.00 (Reference)	0.9 (0.63- 1.29)	1.02 (0.73- 1.42)	0.76 (0.54- 1.07)
Multivariate-adjusted	1.00 (Reference)	0.85 (0.59- 1.24)	0.93 (0.66- 1.31)	0.69 (0.49- 0.97)
(Random effect model)				
Age- and area-adjusted	1.00 (Reference)	0.9 (0.63- 1.29)	1.02 (0.73- 1.42)	0.77 (0.51- 1.15)
Multivariate-adjusted	1.00 (Reference)	0.85 (0.59- 1.24)	0.93 (0.66- 1.31)	0.69 (0.46- 1.03)

表11-11. BMI and total cancer risk (Men)-death-

	BMI						
	<19	19-20.9	21-22.9	23-24.9	25-26.9	27-29.9	30+
	RR	RR (95%CI)	RR (95%CI)	RR (95%CI)	RR (95%CI)	RR (95%CI)	RR (95%CI)
JPHC (age 40-69)							
Number of subjects	1,696	6,110	10,851	11,770	6,979	3,765	922
Person-years	15,419	58,177	104,018	113,434	67,232	36,050	8,590
Number of cases	96	331	282	282	145	85	24
Crude rate (per 100,000)	622.59	374.72	318.21	248.60	215.67	235.78	279.39
Age- and area-adjusted	2.01 (1.59- 2.54)	1.37 (1.15- 1.64)	1.21 (1.03- 1.42)	1.00 (Reference)	0.91 (0.75- 1.11)	1.06 (0.83- 1.35)	1.31 (0.86- 1.99)
Multivariate-adjusted*	1.96 (1.54- 2.49)	1.36 (1.14- 1.64)	1.18 (0.998- 1.39)	1.00 (Reference)	0.94 (0.77- 1.15)	1.11 (0.87- 1.42)	1.26 (0.81- 1.94)
Miyagi (age 40-64)							
Number of subjects	840	2,245	3,598	3,419	1,860	906	222
Person-years	5712	16,546	26,963	26,189	14,037	7,094	1,657
Number of cases	63	138	191	138	67	35	13
Crude rate (per 100,000)	1102.94	834.04	708.38	549.85	477.31	493.37	784.55
Age- and area-adjusted	1.23 (0.91- 1.65)	1.21 (0.96- 1.53)	1.17 (0.94- 1.46)	1.00 (Reference)	0.92 (0.69- 1.23)	0.95 (0.66- 1.37)	1.18 (0.67- 2.08)
Multivariate-adjusted*	1.18 (0.87- 1.60)	1.16 (0.92- 1.47)	1.14 (0.92- 1.41)	1.00 (Reference)	0.93 (0.70- 1.25)	0.95 (0.66- 1.38)	1.19 (0.67- 2.11)
Takayama (age 35+)							
Number of subjects	1257	2,853	3,734	3,301	1,530	645	108
Person-years	8003	19,271	25,713	22,727	10,598	4,375	721
Number of cases	78	113	97	83	26	8	1
Crude rate (per 100,000)	974.63	586.37	377.24	365.20	246.49	182.86	138.70
Age- and area-adjusted	1.37 (1.00- 1.88)	1.27 (0.95- 1.68)	0.88 (0.66- 1.18)	1.00 (Reference)	0.74 (0.48- 1.15)	0.63 (0.31- 1.31)	0.32 (0.05- 2.32)
Multivariate-adjusted*	1.28 (0.94- 1.76)	1.19 (0.90- 1.59)	0.85 (0.64- 1.15)	1.00 (Reference)	0.77 (0.49- 1.19)	0.67 (0.32- 1.38)	0.33 (0.05- 2.40)
Meta-analysis							
Number of subjects	3793	11,208	18,183	18,490	10,369	5316	1,252
Person-years	29,134.38	93,993.94	156,693.73	162,349.90	91,817.41	47,518.97	10,968.28
Number of cases	237	469	619	509	238	128	38
Crude rate (per 100,000)	813.47	498.97	395.04	313.52	259.21	269.37	346.45
(Fixed effect model)							
Age- and area-adjusted	1.58 (1.35- 1.85)	1.30 (1.15- 1.48)	1.14 (1.01- 1.28)	1.00 (Reference)	0.89 (0.76- 1.04)	0.99 (0.82- 1.20)	1.21 (0.87- 1.69)
Multivariate-adjusted*	1.52 (1.29- 1.79)	1.26 (1.11- 1.44)	1.11 (0.98- 1.25)	1.00 (Reference)	0.91 (0.78- 1.07)	1.02 (0.84- 1.25)	1.19 (0.85- 1.67)
(Random effect model)							
Age- and area-adjusted	1.52 (1.11- 2.08)	1.30 (1.15- 1.48)	1.11 (0.94- 1.32)	1.00 (Reference)	0.89 (0.76- 1.04)	0.99 (0.82- 1.20)	1.21 (0.87- 1.69)
Multivariate-adjusted*	1.45 (1.04- 2.03)	1.26 (1.11- 1.44)	1.09 (0.92- 1.28)	1.00 (Reference)	0.91 (0.78- 1.07)	1.02 (0.84- 1.25)	1.19 (0.85- 1.67)

表11-12. BMI and total cancer risk (Women)-death-

	BMI						
	<19	19-20.9	21-22.9	23-24.9	25-26.9	27-29.9	30+
	RR	RR (95%CI)	RR (95%CI)	RR (95%CI)	RR (95%CI)	RR (95%CI)	RR (95%CI)
JPHC (age 40-69)							
Number of subjects	2,468	7,159	12,199	11,518	7,261	4,695	1,535
Person-years	23,308	69,532	119,507	113,942	71,812	46,366	15,149
Number of cases	51	85	146	158	115	73	20
Crude rate (per 100,000)	218.81	122.25	122.17	138.67	160.14	157.44	132.02
Age- and area-adjusted	1.16 (1.15- 2.16)	0.94 (0.72- 1.22)	0.91 (0.73- 1.15)	1.00 (Reference)	1.04 (0.79- #####)	1.04 (0.79- #####)	0.88 (0.55- 1.40)
Multivariate-adjusted*	1.43 (1.03- 1.98)	0.88 (0.67- 1.15)	0.90 (0.71- 1.13)	1.00 (Reference)	1.09 #####	1.03 (0.78- #####)	0.85 (0.53- 1.37)
Miyagi (age 40-64)							
Number of subjects	1,351	2,671	3,926	3,558	2,413	1,560	567
Person-years	9,460	20,177	30,345	28,250	19,487	12,505	4,510
Number of cases	47	66	91	72	44	52	20
Crude rate (per 100,000)	496.83	327.11	299.88	254.87	225.79	415.83	443.46
Age- and area-adjusted	1.31 (0.90- 1.89)	1.18 (0.85- 1.65)	1.10 (0.81- 1.50)	1.00 (Reference)	0.86 #####	1.58 (1.11- #####)	1.45 (0.88- 2.38)
Multivariate-adjusted*	1.28 (0.88- 1.86)	1.18 (0.84- 1.65)	1.10 (0.81- 1.50)	1.00 (Reference)	0.87 #####	1.58 (1.10- #####)	1.37 (0.83- 2.26)
Takayama (age 35+)							
Number of subjects	2103	3,872	4,470	3,038	1,323	648	155
Person-years	14,054	26,954	31,567	21,537	9,395	4,591	1,066
Number of cases	43	67	58	50	21	8	5
Crude rate (per 100,000)	305.96	248.57	183.74	232.16	223.52	174.25	469.04
Age- and area-adjusted	0.91 (0.60- 1.37)	1.06 (0.73- 1.53)	0.80 (0.55- 1.16)	1.00 (Reference)	0.92 #####	0.73 (0.53- #####)	1.68 (0.67- 4.21)
Multivariate-adjusted*	0.90 (0.60- 1.36)	1.07 (0.74- 1.54)	0.80 (0.55- 1.17)	1.00 (Reference)	0.93 #####	0.73 (0.53- #####)	1.67 (0.66- 4.19)
Meta-analysis							
Number of subjects	5922	13,702	20,595	18,114	10,977	6,903	2,257
Person-years	46,822.35	116,663.37	181,419.10	163,729.27	100,694.33	63,462.18	20,724.97
Number of cases	141	218	295	280	180	133	45
Crude rate (per 100,000)	301.14	186.86	162.61	171.01	178.76	209.57	217.13
(Fixed effect model)							
Age- and area-adjusted	1.12 (0.87- 1.44)	1.03 (0.86- 1.24)	0.94 (0.79- 1.11)	1.00 (Reference)	1.00 (0.83- 1.21)	1.17 (0.95- 1.44)	1.17 (0.85- 1.60)
Multivariate-adjusted*	1.22 (0.99- 1.51)	1.01 (0.84- 1.21)	0.93 (0.79- 1.10)	1.00 (Reference)	1.01 (0.83- 1.22)	1.17 (0.95- 1.44)	1.13 (0.82- 1.56)
(Random effect model)							
Age- and area-adjusted	1.12 (0.87- 1.44)	1.03 (0.86- 1.24)	0.94 (0.79- 1.11)	1.00 (Reference)	1.00 (0.83- 1.21)	1.15 (0.79- 1.67)	1.19 (0.81- 1.76)
Multivariate-adjusted*	1.21 (0.93- 1.57)	1.01 (0.84- 1.21)	0.93 (0.79- 1.10)	1.00 (Reference)	1.01 (0.83- 1.22)	1.14 (0.78- 1.67)	1.15 (0.78- 1.68)

Table 13. BMI and total cancer risk (Men)-Incidence-

	BMI					
	<19	19-20.9	21-22.9	23-24.9	25-26.9	30+
	RR	RR (95%CI)	RR (95%CI)	RR (95%CI)	RR (95%CI)	RR (95%CI)
JPHC (age 40-69)						
Number of subjects	1,696	6,110	10,851	11,770	6,979	922
Person-years	15,068	56,974	101,761	111,194	66,050	8,432
Number of cases	157	466	766	725	397	55
Crude rate (per 100,000)	1041.93	817.91	752.74	652.01	601.06	652.29
Age- and area-adjusted	1.28 (1.07- 1.52)	1.12 (0.998- 1.26)	1.08 (0.98- 1.20)	1.00 (Reference)	0.97 (0.86- 1.09)	0.98 (0.84- 1.15)
Multivariate-adjusted*	1.29 (1.08- 1.54)	1.14 (1.01- 1.28)	1.08 (0.97- 1.19)	1.00 (Reference)	0.99 (0.87- 1.12)	1.22 (0.92- 1.61)
Miyagi (age 40-64)						
Number of subjects	840	2,245	3,598	3,419	1,860	222
Person-years	5550	16,097	26,367	25,644	13,715	1,605
Number of cases	85	214	298	254	130	23
Crude rate (per 100,000)	1531.57	1329.44	1130.20	990.49	947.83	1433.01
Age- and area-adjusted	1.00 (0.78- 1.29)	1.11 (0.92- 1.33)	1.06 (0.89- 1.24)	1.00 (Reference)	1.00 (0.81- 1.23)	1.23 (0.81- 1.89)
Multivariate-adjusted*	0.98 (0.76- 1.26)	1.09 (0.91- 1.31)	1.04 (0.88- 1.23)	1.00 (Reference)	1.01 (0.82- 1.25)	1.26 (0.82- 1.94)
Meta-analysis						
Number of subjects	2536	8335	14449	15189	8839	1144
Person-years	20618.22	73071.48	128128.46	136837.80	79765.47	10036.80
Number of cases	242	680	1064	979	527	78
Crude rate (per 100,000)	1173.72	930.60	830.42	715.45	660.69	777.14
(Fixed effect model)						
Age- and area-adjusted	1.18 (1.03- 1.37)	1.12 (1.01- 1.23)	1.07 (0.98- 1.17)	1.00 (Reference)	0.98 (0.88- 1.08)	1.22 (0.97- 1.53)
Multivariate-adjusted*	1.18 (1.02- 1.36)	1.13 (1.02- 1.24)	1.07 (0.98- 1.16)	1.00 (Reference)	0.99 (0.89- 1.11)	1.23 (0.98- 1.56)
(Random effect model)						
Age- and area-adjusted	1.15 (0.91- 1.46)	1.12 (1.01- 1.23)	1.07 (0.98- 1.17)	1.00 (Reference)	0.98 (0.88- 1.08)	1.22 (0.97- 1.53)
Multivariate-adjusted*	1.14 (0.87- 1.49)	1.13 (1.02- 1.24)	1.07 (0.98- 1.16)	1.00 (Reference)	0.99 (0.89- 1.11)	1.23 (0.98- 1.56)

Table 14. BMI and total cancer risk (Women)-Incidence-

	BMI					
	<19	19-20.9	21-22.9	23-24.9	25-26.9	30+
	RR	RR (95%CI)	RR (95%CI)	RR (95%CI)	RR (95%CI)	RR (95%CI)
JPHC (age 40-69)						
Number of subjects	2,468	7,159	12,199	11,518	7,261	4,605
Person-years	22,990	68,547	117,588	112,233	70,629	45,657
Number of cases	104	264	497	476	328	60
Crude rate (per 100,000)	452.37	385.14	422.66	424.12	464.40	446.81
Age- and area-adjusted	1.07 (0.87- 1.32)	0.94 (0.81- 1.09)	1.01 (0.89- 1.15)	1.00 (Reference)	1.07 (0.93- 1.23)	1.01 (0.86- 1.19)
Multivariate-adjusted*	1.01 (0.81- 1.26)	0.91 (0.78- 1.06)	0.99 (0.88- 1.13)	1.00 (Reference)	1.04 (0.90- 1.21)	1.01 (0.85- 1.19)
Miyagi (age 40-64)						
Number of subjects	1351	2,671	3,926	3,538	2,413	1,560
Person-years	9302	19,890	30,020	27,857	19,171	12,280
Number of cases	74	127	153	141	103	87
Crude rate (per 100,000)	795.53	638.51	509.66	506.16	537.27	708.47
Age- and area-adjusted	1.21 (0.91- 1.60)	1.21 (0.95- 1.53)	0.97 (0.77- 1.22)	1.00 (Reference)	1.03 (0.80- 1.33)	1.35 (1.03- 1.76)
Multivariate-adjusted*	1.18 (0.89- 1.58)	1.19 (0.94- 1.52)	0.96 (0.77- 1.21)	1.00 (Reference)	1.04 (0.81- 1.35)	1.54 (1.08- 2.20)
Meta-analysis						
Number of subjects	3819	9830	16125	15076	9674	6255
Person-years	32292.00	88437.38	147608.47	140900.09	89799.97	57936.60
Number of cases	178	391	650	617	431	99
Crude rate (per 100,000)	551.22	442.12	440.35	440.43	479.96	502.27
(Fixed effect model)						
Age- and area-adjusted	1.12 (0.95- 1.32)	1.01 (0.89- 1.14)	1.00 (0.89- 1.12)	1.00 (Reference)	1.06 (0.94- 1.20)	1.11 (0.90- 1.38)
Multivariate-adjusted*	1.07 (0.90- 1.28)	0.98 (0.86- 1.12)	0.98 (0.88- 1.10)	1.00 (Reference)	1.04 (0.91- 1.19)	1.09 (0.95- 1.26)
(Random effect model)						
Age- and area-adjusted	1.12 (0.95- 1.32)	1.05 (0.82- 1.34)	1.00 (0.89- 1.12)	1.00 (Reference)	1.06 (0.94- 1.20)	1.15 (0.86- 1.52)
Multivariate-adjusted*	1.07 (0.90- 1.28)	1.02 (0.79- 1.33)	0.98 (0.88- 1.10)	1.00 (Reference)	1.04 (0.91- 1.19)	1.15 (0.86- 1.53)

表11-15. BMI and colorectal cancer risk (Men)

	BMI			RR	(95%CI)	RR	(95%CI)	RR	(95%CI)
	<25	25-26.9	27-29.9						
JPHC (age 40-69, incidence)									
Number of subjects	35,736	8,084	4,302	1,036					
Person-years	329,724	75,395	40,039	9,423					
Number of cases	438	113	58	17					
Crude rate (per 100,000)	132.84	149.88	144.86	180.41					
Age- and area-adjusted	1.00 (Reference)	1.24 (1.01- 1.53)	1.31 (0.99- 1.73)	1.65 (1.02- 2.69)					
Multivariate-adjusted	1.00 (Reference)	1.22 (0.99- 1.52)	1.38 (1.04- 1.83)	1.48 (0.87- 2.54)					
Miyagi (age 40-64, incidence)									
Number of subjects	10,102	1,860	906	222					
Person-years	75,106	13,979	7,060	1,639					
Number of cases	123	23	13	5					
Crude rate (per 100,000)	163.77	164.53	184.14	305.06					
Age- and area-adjusted	1.00 (Reference)	1.14 (0.73- 1.79)	1.28 (0.72- 2.27)	1.80 (0.74- 4.39)					
Multivariate-adjusted	1.00 (Reference)	1.13 (0.72- 1.77)	1.36 (0.76- 2.42)	1.85 (0.75- 4.55)					
Takayama (age 35+, incidence)									
Number of subjects	10,913	1,510	631	106					
Person-years	83,280	11,687	4,809	791					
Number of cases	133	26	6	0					
Crude rate (per 100,000)	159.70	222.47	124.77	0.00					
Age- and area-adjusted	1.00 (Reference)	1.63 (1.07- 2.49)	0.98 (0.43- 2.23)						
Multivariate-adjusted	1.00 (Reference)	1.64 (1.07- 2.50)	0.99 (0.43- 2.24)						
JACC (age 40-79, incidence)									
Number of subjects	20,472	2,999	1,305	267					
Person-years	156,925	23,437	10,222	2,142					
Number of cases	313	47	19	4					
Crude rate (per 100,000)	199.46	200.54	185.88	186.75					
Age- and area-adjusted	1.00 (Reference)	1.09 (0.80- 1.49)	1.05 (0.66- 1.67)	1.02 (0.38- 2.74)					
Multivariate-adjusted	1.00 (Reference)	1.08 (0.80- 1.48)	1.05 (0.66- 1.68)	1.04 (0.39- 2.80)					
Meta-analysis									
Number of subjects	77,223	14,453	7,144	1,631					
Person-years	645,035	124,498	62,130	13,995					
Number of cases	1,007	209	96	26					
Crude rate (per 100,000)	156.12	167.87	154.52	185.78					
(Fixed effect model)									
Age- and area-adjusted	1.00 (Reference)	1.23 (1.06- 1.44)	1.22 (0.99- 1.51)	1.56 (1.05- 2.30)					
Multivariate-adjusted	1.00 (Reference)	1.22 (1.05- 1.43)	1.27 (1.02- 1.58)	1.46 (0.96- 2.22)					
(Random effect model)									
Age- and area-adjusted	1.00 (Reference)	1.23 (1.06- 1.44)	1.22 (0.99- 1.51)	1.56 (1.05- 2.30)					
Multivariate-adjusted	1.00 (Reference)	1.22 (1.05- 1.43)	1.27 (1.02- 1.58)	1.46 (0.96- 2.22)					

表11-16. BMI and colorectal cancer risk (Women)

	BMI			RR	(95%CI)	RR	(95%CI)	RR	(95%CI)
	<25	25-26.9	27-29.9						
JPHC (age 40-69, incidence)									
Number of subjects	39,031	7,953	5,098	1,709					
Person-years	369,533	77,077	49,503	16,560					
Number of cases	245	72	33	10					
Crude rate (per 100,000)	66.30	93.41	66.66	60.39					
Age- and area-adjusted	1.00 (Reference)	1.29 (0.99- 1.67)	0.90 (0.62- 1.29)	0.84 (0.45- 1.58)					
Multivariate-adjusted	1.00 (Reference)	1.27 (0.97- 1.67)	0.94 (0.65- 1.35)	0.79 (0.40- 1.53)					
Miyagi (age 40-64, incidence)									
Number of subjects	11,506	2,413	1,560	567					
Person-years	88,020	19,432	12,471	4,473					
Number of cases	80	18	15	9					
Crude rate (per 100,000)	90.89	92.63	120.28	201.21					
Age- and area-adjusted	1.00 (Reference)	1.08 (0.65- 1.80)	1.39 (0.80- 2.42)	2.05 (1.03- 4.08)					
Multivariate-adjusted	1.00 (Reference)	1.06 (0.63- 1.77)	1.41 (0.81- 2.46)	2.09 (1.05- 4.19)					
Takayama (age 35+, incidence)									
Number of subjects	13,315	1,305	642	152					
Person-years	104,724	10,469	5,148	1,175					
Number of cases	117	13	2	2					
Crude rate (per 100,000)	111.72	124.18	38.85	170.21					
Age- and area-adjusted	1.00 (Reference)	1.09 (0.61- 1.93)	0.34 (0.08- 1.38)	1.43 (0.35- 5.78)					
Multivariate-adjusted	1.00 (Reference)	1.10 (0.62- 1.95)	0.34 (0.08- 1.37)	1.48 (0.37- 6.00)					
JACC (age 40-79, incidence)									
Number of subjects	28,317	4,764	2,624	736					
Person-years	215,161	36,796	20,497	5,622					
Number of cases	208	38	17	8					
Crude rate (per 100,000)	96.67	103.27	82.94	142.31					
Age- and area-adjusted	1.00 (Reference)	1.10 (0.78- 1.55)	0.91 (0.55- 1.49)	1.45 (0.71- 2.95)					
Multivariate-adjusted	1.00 (Reference)	1.11 (0.78- 1.57)	0.92 (0.56- 1.51)	1.45 (0.71- 2.96)					
Meta-analysis									
Number of subjects	92,169	16,435	9,924	3,164					
Person-years	777,438	143,774	87,619	27,830					
Number of cases	650	141	67	29					
Crude rate (per 100,000)	83.61	98.07	76.47	104.21					
(Fixed effect model)									
Age- and area-adjusted	1.00 (Reference)	1.19 (0.99- 1.42)	0.96 (0.74- 1.23)	1.32 (0.91- 1.93)					
Multivariate-adjusted	1.00 (Reference)	1.17 (0.97- 1.42)	0.98 (0.76- 1.27)	1.32 (0.90- 1.94)					
(Random effect model)									
Age- and area-adjusted	1.00 (Reference)	1.19 (0.99- 1.42)	0.96 (0.70- 1.31)	1.33 (0.88- 2.03)					
Multivariate-adjusted	1.00 (Reference)	1.17 (0.97- 1.42)	0.98 (0.72- 1.34)	1.33 (0.84- 2.11)					

表11-17. BMI and colon cancer risk (Men)

	BMI			
	<25	25-26.9	27-29.9	30+
	RR	(95%CI)	RR	(95%CI)
JPHC (age 40-69, incidence)				
Number of subjects	35,736	8,084	4,302	1,036
Person-years	329,724	75,395	40,039	9,423
Number of cases	291	80	41	12
Crude rate (per 100,000)	88.26	106.11	102.40	127.35
Age- and area-adjusted	1.00 (Reference)	1.32 (1.03- 1.69)	1.40 (1.01- 1.95)	1.77 (0.99- 3.16)
Multivariate-adjusted	1.00 (Reference)	1.33 (1.03- 1.71)	1.50 (1.08- 2.09)	1.44 (0.74- 2.80)
Miyagi (age 40-64, incidence)				
Number of subjects	10,102	1,860	906	222
Person-years	75,253	14,005	7,081	1,655
Number of cases	70	16	6	2
Crude rate (per 100,000)	93.02	114.24	84.73	120.85
Age- and area-adjusted	1.00 (Reference)	1.43 (0.83- 2.46)	1.06 (0.46- 2.43)	1.25 (0.31- 5.08)
Multivariate-adjusted	1.00 (Reference)	1.40 (0.81- 2.42)	1.14 (0.49- 2.64)	1.32 (0.32- 5.43)
Takayama (age 35+, incidence)				
Number of subjects	10,859	1,503	631	106
Person-years	83,034	11,651	4,809	791
Number of cases	79	19	6	0
Crude rate (per 100,000)	95.14	163.08	124.77	0.00
Age- and area-adjusted	1.00 (Reference)	1.97 (1.19- 3.25)	1.60 (0.69- 3.68)	0.00
Multivariate-adjusted	1.00 (Reference)	1.96 (1.19- 3.25)	1.61 (0.70- 3.71)	0.00
JACC (age 40-79, incidence)				
Number of subjects	20,472	2,999	1,305	267
Person-years	156,925	23,437	10,222	2,142
Number of cases	179	32	14	0
Crude rate (per 100,000)	114.07	136.53	136.97	0.00
Age- and area-adjusted	1.00 (Reference)	1.33 (0.91- 1.94)	1.38 (0.80- 2.38)	0.00
Multivariate-adjusted	1.00 (Reference)	1.33 (0.91- 1.94)	1.43 (0.83- 2.47)	0.00
Meta-analysis				
Number of subjects	77,169	14,446	7,144	1,631
Person-years	644,936	124,488	62,151	14,011
Number of cases	619	147	67	14
Crude rate (per 100,000)	95.98	118.08	107.80	99.92
(Fixed effect model)				
Age- and area-adjusted	1.00 (Reference)	1.41 (1.17- 1.68)	1.38 (1.07- 1.78)	1.68 (0.98- 2.87)
Multivariate-adjusted	1.00 (Reference)	1.41 (1.17- 1.69)	1.46 (1.13- 1.88)	1.42 (0.78- 2.59)
(Random effect model)				
Age- and area-adjusted	1.00 (Reference)	1.41 (1.17- 1.68)	1.38 (1.07- 1.78)	1.68 (0.98- 2.87)
Multivariate-adjusted	1.00 (Reference)	1.41 (1.17- 1.69)	1.46 (1.13- 1.88)	1.42 (0.78- 2.59)

表11-18. BMI and rectal cancer risk (Men)

	BMI			
	<25	25-26.9	27-29.9	30+
	RR	(95%CI)	RR	(95%CI)
JPHC (age 40-69, incidence)				
Number of subjects	35,736	8,084	4,302	1,036
Person-years	329,724	75,395	40,039	9,423
Number of cases	147	33	17	5
Crude rate (per 100,000)	44.58	43.77	42.46	53.06
Age- and area-adjusted	1.00 (Reference)	1.08 (0.74- 1.58)	1.13 (0.68- 1.88)	1.43 (0.59- 3.52)
Multivariate-adjusted	1.00 (Reference)	1.02 (0.68- 1.52)	1.15 (0.68- 1.94)	1.58 (0.64- 3.88)
Miyagi (age 40-64, incidence)				
Number of subjects	10,102	1,860	906	222
Person-years	75,263	14,011	7,073	1,642
Number of cases	53	7	7	3
Crude rate (per 100,000)	70.42	49.96	98.97	182.70
Age- and area-adjusted	1.00 (Reference)	0.79 (0.36- 1.73)	1.56 (0.71- 3.44)	2.53 (0.79- 8.09)
Multivariate-adjusted	1.00 (Reference)	0.78 (0.35- 1.73)	1.63 (0.73- 3.61)	2.47 (0.76- 8.03)
Takayama (age 35+, incidence)				
Number of subjects	10,832	1,490	625	106
Person-years	82,920	11,591	4,786	791
Number of cases	52	6	0	0
Crude rate (per 100,000)	62.71	51.76	0.00	0.00
Age- and area-adjusted	1.00 (Reference)	1.00 (0.43- 2.34)	0.00	0.00
Multivariate-adjusted	1.00 (Reference)	1.01 (0.43- 2.37)	0.00	0.00
JACC (age 40-79, incidence)				
Number of subjects	20,472	2,999	1,305	267
Person-years	156,925	23,437	10,222	2,142
Number of cases	130	11	5	4
Crude rate (per 100,000)	82.84	46.93	48.92	186.75
Age- and area-adjusted	1.00 (Reference)	0.61 (0.33- 1.14)	0.67 (0.27- 1.63)	2.38 (0.88- 6.46)
Multivariate-adjusted	1.00 (Reference)	0.59 (0.32- 1.10)	0.63 (0.26- 1.55)	2.19 (0.80- 5.96)
Meta-analysis				
Number of subjects	77,142	14,433	7,138	1,631
Person-years	644,832	124,434	62,120	13,998
Number of cases	382	57	29	12
Crude rate (per 100,000)	59.24	45.81	46.68	85.73
(Fixed effect model)				
Age- and area-adjusted	1.00 (Reference)	0.91 (0.69- 1.21)	1.11 (0.75- 1.63)	1.96 (1.10- 3.49)
Multivariate-adjusted	1.00 (Reference)	0.87 (0.65- 1.17)	1.12 (0.75- 1.65)	1.97 (1.10- 3.52)
(Random effect model)				
Age- and area-adjusted	1.00 (Reference)	0.91 (0.69- 1.21)	1.11 (0.75- 1.63)	1.96 (1.10- 3.49)
Multivariate-adjusted	1.00 (Reference)	0.87 (0.65- 1.17)	1.11 (0.71- 1.73)	1.97 (1.10- 3.52)

§11-19. BMI and colon cancer risk (Women)

	BMI			
	<25	25-26.9	27-29.9	30+
	RR	(95%CI)	RR	(95%CI)
JPHC (age 40-69, incidence)				
Number of subjects	39,031	7,953	5,098	1,709
Person-years	369,533	77,077	49,503	16,560
Number of cases	155	48	21	5
Crude rate (per 100,000)	41.94	62.28	42.42	30.19
Age- and area-adjusted	1.00 (Reference)	1.35 (0.97- 1.86)	0.90 (0.57- 1.42)	0.66 (0.27- 1.61)
Multivariate-adjusted	1.00 (Reference)	1.29 (0.93- 1.81)	0.91 (0.58- 1.45)	0.53 (0.20- 1.44)
Miyagi (age 40-64, incidence)				
Number of subjects	11,506	2,413	1,560	567
Person-years	88,109	19,463	12,480	4,490
Number of cases	48	8	12	6
Crude rate (per 100,000)	54.48	41.10	96.15	133.63
Age- and area-adjusted	1.00 (Reference)	0.82 (0.39- 1.73)	1.91 (1.01- 3.60)	2.27 (0.97- 5.31)
Multivariate-adjusted	1.00 (Reference)	0.79 (0.37- 1.67)	1.98 (1.04- 3.77)	2.44 (1.03- 5.76)
Takayama (age 35+, incidence)				
Number of subjects	13,281	1,299	641	152
Person-years	104,555	10,430	5,146	1,175
Number of cases	83	7	1	2
Crude rate (per 100,000)	79.38	67.11	19.43	170.21
Age- and area-adjusted	1.00 (Reference)	0.83 (0.39- 1.80)	0.24 (0.03- 1.74)	1.98 (0.49- 8.06)
Multivariate-adjusted	1.00 (Reference)	0.85 (0.39- 1.84)	0.24 (0.03- 1.70)	2.08 (0.51- 8.46)
JACC (age 40-79, incidence)				
Number of subjects	28,317	4,764	2,624	736
Person-years	215,161	36,796	20,497	5,622
Number of cases	155	28	15	7
Crude rate (per 100,000)	72.04	76.09	73.18	124.52
Age- and area-adjusted	1.00 (Reference)	1.11 (0.74- 1.66)	1.12 (0.66- 1.91)	1.79 (0.84- 3.84)
Multivariate-adjusted	1.00 (Reference)	1.12 (0.75- 1.68)	1.13 (0.66- 1.92)	1.78 (0.83- 3.83)
Meta-analysis				
Number of subjects	92,135	16,429	9,923	3,164
Person-years	777,358	143,766	87,626	27,847
Number of cases	441	91	49	20
Crude rate (per 100,000)	56.73	63.30	55.92	71.82
(Fixed effect model)				
Age- and area-adjusted	1.00 (Reference)	1.16 (0.93- 1.46)	1.11 (0.82- 1.50)	1.5 (0.95- 2.35)
Multivariate-adjusted	1.00 (Reference)	1.13 (0.89- 1.43)	1.12 (0.83- 1.52)	1.53 (0.96- 2.43)
(Random effect model)				
Age- and area-adjusted	1.00 (Reference)	1.16 (0.93- 1.46)	1.11 (0.69- 1.77)	1.49 (0.84- 2.64)
Multivariate-adjusted	1.00 (Reference)	1.16 (0.93- 1.46)	1.11 (0.69- 1.81)	1.49 (0.76- 2.91)

§11-20. BMI and rectal cancer risk (Women)

	BMI			
	<25	25-26.9	27-29.9	30+
	RR	(95%CI)	RR	(95%CI)
JPHC (age 40-69, incidence)				
Number of subjects	39,031	7,953	5,098	1,709
Person-years	369,533	77,077	49,503	16,560
Number of cases	90	24	12	5
Crude rate (per 100,000)	24.36	31.14	24.24	30.19
Age- and area-adjusted	1.00 (Reference)	1.18 (0.75- 1.85)	0.90 (0.49- 1.64)	1.16 (0.47- 2.87)
Multivariate-adjusted	1.00 (Reference)	1.23 (0.77- 1.96)	0.98 (0.53- 1.80)	1.26 (0.51- 3.13)
Miyagi (age 40-64, incidence)				
Number of subjects	11,506	2,413	1,560	567
Person-years	88,142	19,455	12,496	4,496
Number of cases	32	10	3	2
Crude rate (per 100,000)	36.31	51.40	24.01	44.48
Age- and area-adjusted	1.00 (Reference)	1.46 (0.72- 2.96)	0.68 (0.21- 2.20)	1.14 (0.27- 4.78)
Multivariate-adjusted	1.00 (Reference)	1.45 (0.71- 2.96)	0.65 (0.20- 2.13)	1.12 (0.27- 4.68)
Takayama (age 35+, incidence)				
Number of subjects	13,232	1,298	641	150
Person-years	104,377	10,426	5,142	1,164
Number of cases	34	6	1	0
Crude rate (per 100,000)	32.57	57.55	19.45	0.00
Age- and area-adjusted	1.00 (Reference)	1.72 (0.72- 4.10)	0.58 (0.08- 4.24)	
Multivariate-adjusted	1.00 (Reference)	1.72 (0.72- 4.09)	0.58 (0.08- 4.27)	
JACC (age 40-79, incidence)				
Number of subjects	28,317	4,764	2,624	736
Person-years	215,161	36,796	20,497	5,622
Number of cases	48	10	2	1
Crude rate (per 100,000)	22.31	27.18	9.76	17.79
Age- and area-adjusted	1.00 (Reference)	1.20 (0.60- 2.37)	0.43 (0.10- 1.76)	0.72 (0.10- 5.25)
Multivariate-adjusted	1.00 (Reference)	1.22 (0.62- 2.42)	0.43 (0.11- 1.80)	0.73 (0.10- 5.34)
Meta-analysis				
Number of subjects	92,086	16,428	9,923	3,162
Person-years	777,213	143,754	87,638	27,842
Number of cases	204	50	18	8
Crude rate (per 100,000)	26.25	34.78	20.54	28.73
(Fixed effect model)				
Age- and area-adjusted	1.00 (Reference)	1.29 (0.95- 1.76)	0.77 (0.47- 1.24)	1.09 (0.53- 2.22)
Multivariate-adjusted	1.00 (Reference)	1.33 (0.97- 1.82)	0.8 (0.49- 1.31)	1.14 (0.56- 2.33)
(Random effect model)				
Age- and area-adjusted	1.00 (Reference)	1.29 (0.95- 1.76)	0.77 (0.47- 1.24)	1.09 (0.53- 2.22)
Multivariate-adjusted	1.00 (Reference)	1.33 (0.97- 1.82)	0.8 (0.49- 1.31)	1.14 (0.56- 2.33)

表II-21. BMI and breast cancer risk (All)

	BMI									
	<2.5	2.5-26.9	RR	(95%CI)	27-29.9	RR	(95%CI)	30+	RR	(95%CI)
JPHC (age 40-69, incidence)										
Number of subjects	39,039	8,004			5,093			1,721		
Person-years	394,462	82,737			52,730			17,728		
Number of cases	301	61			47			21		
Crude rate (per 100,000)	76.31	73.73			89.13			118.46		
Age- and area-adjusted	1.00 (Reference)	0.97 (0.74- 1.28)			1.18 (0.87- 1.61)			1.58 (1.01- 2.46)		
Multivariate-adjusted	1.00 (Reference)	1.08 (0.81- 1.42)			1.28 (0.93- 1.76)			1.53 (0.94- 2.47)		
Miyagi (age 40-64, incidence)										
Number of subjects	11,506	2,413			1,560			567		
Person-years	87,923	19,411			12,435			4,470		
Number of cases	75	20			15			7		
Crude rate (per 100,000)	85.30	103.03			120.63			156.60		
Age- and area-adjusted	1.00 (Reference)	1.21 (0.74- 1.98)			1.42 (0.81- 2.47)			1.84 (0.85- 4.00)		
Multivariate-adjusted	1.00 (Reference)	1.26 (0.77- 2.07)			1.55 (0.88- 2.71)			1.99 (0.91- 4.35)		
Meta-analysis										
Number of subjects	50,545	10,417			6,653			2,288		
Person-years	482,385	102,148			65,165			22,198		
Number of cases	376	81			62			28		
Crude rate (per 100,000)	77.95	79.30			95.14			126.14		
(Fixed effect model)										
Age- and area-adjusted	1.00 (Reference)	1.02 (0.80- 1.30)			1.23 (0.94- 1.62)			1.64 (1.12- 2.41)		
Multivariate-adjusted	1.00 (Reference)	1.12 (0.88- 1.42)			1.34 (1.02- 1.77)			1.64 (1.09- 2.47)		
(Random effect model)										
Age- and area-adjusted	1.00 (Reference)	1.02 (0.80- 1.30)			1.23 (0.94- 1.62)			1.64 (1.12- 2.41)		
Multivariate-adjusted	1.00 (Reference)	1.12 (0.88- 1.42)			1.34 (1.02- 1.77)			1.64 (1.09- 2.47)		

表II-22. BMI and breast cancer risk (pre-menopausal)

	BMI									
	<2.5	2.5-26.9	RR	(95%CI)	27-29.9	RR	(95%CI)	30+	RR	(95%CI)
JPHC (age 40-69, incidence)										
Number of subjects	16,711	2,819			1,681			588		
Person-years	169,225	29,636			17,809			6,122		
Number of cases	142	27			22			10		
Crude rate (per 100,000)	83.91	91.11			123.53			163.35		
Age- and area-adjusted	1.00 (Reference)	1.07 (0.71- 1.62)			1.44 (0.91- 2.26)			1.89 (0.99- 3.62)		
Multivariate-adjusted	1.00 (Reference)	1.15 (0.76- 1.74)			1.59 (1.01- 2.51)			1.46 (0.68- 3.14)		
Miyagi (age 40-64, incidence)										
Number of subjects	3,682	721			410			146		
Person-years	27,860	5,905			3,317			1,159		
Number of cases	26	4			4			0		
Crude rate (per 100,000)	93.32	67.74			120.59			0.00		
Age- and area-adjusted	1.00 (Reference)	0.72 (0.25- 2.07)			1.29 (0.45- 3.69)			NA		
Multivariate-adjusted	1.00 (Reference)	0.77 (0.27- 2.23)			1.39 (0.47- 4.15)			NA		
Meta-analysis										
Number of subjects	20,393	3,540			2,091			734		
Person-years	197,085	35,541			21,126			7,281		
Number of cases	168	31			26			10		
Crude rate (per 100,000)	85.24	87.22			123.07			137.34		
(Fixed effect model)										
Age- and area-adjusted	1.00 (Reference)	1.01 (0.69- 1.49)			1.42 (0.94- 2.14)			1.89 (0.99- 3.62)		
Multivariate-adjusted	1.00 (Reference)	1.09 (0.74- 1.60)			1.56 (1.02- 2.38)			1.46 (0.68- 3.14)		
(Random effect model)										
Age- and area-adjusted	1.00 (Reference)	1.01 (0.69- 1.49)			1.42 (0.94- 2.14)			1.89 (0.99- 3.62)		
Multivariate-adjusted	1.00 (Reference)	1.09 (0.74- 1.60)			1.56 (1.02- 2.38)			1.46 (0.68- 3.14)		

表II-23. BMI and breast cancer risk (post-menopausal)

	BMI									
	<2.5	2.5-26.9	RR	(95%CI)	27-29.9	RR	(95%CI)	30+	RR	(95%CI)
JPHC (age 40-69, incidence)										
Number of subjects	22,328	5,185			3,412			1,133		
Person-years	225,237	53,101			34,921			11,606		
Number of cases	159	34			25			11		
Crude rate (per 100,000)	70.59	64.03			71.59			94.78		
Age- and area-adjusted	1.00 (Reference)	0.90 (0.62- 1.31)			1.01 (0.66- 1.55)			1.35 (0.73- 2.50)		
Multivariate-adjusted	1.00 (Reference)	1.02 (0.70- 1.48)			1.07 (0.69- 1.66)			1.56 (0.84- 2.89)		
Miyagi (age 40-64, incidence)										
Number of subjects	6,538	1,366			928			330		
Person-years	50,124	10,868			7,324			2,616		
Number of cases	38	15			8			5		
Crude rate (per 100,000)	75.81	138.02			109.23			191.13		
Age- and area-adjusted	1.00 (Reference)	1.82 (1.00- 3.32)			1.44 (0.67- 3.09)			2.52 (0.99- 6.41)		
Multivariate-adjusted	1.00 (Reference)	1.96 (1.07- 3.59)			1.66 (0.77- 3.58)			2.83 (1.09- 7.31)		
Meta-analysis										
Number of subjects	28,866	6,551			4,340			1,463		
Person-years	275,361	63,969			42,245			14,222		
Number of cases	197	49			33			16		
Crude rate (per 100,000)	71.54	76.60			78.12			112.50		
(Fixed effect model)										
Age- and area-adjusted	1.00 (Reference)	1.1 (0.80- 1.51)			1.1 (0.76- 1.60)			1.63 (0.98- 2.73)		
Multivariate-adjusted	1.00 (Reference)	1.22 (0.89- 1.68)			1.19 (0.81- 1.75)			1.86 (1.11- 3.12)		
(Random effect model)										
Age- and area-adjusted	1.00 (Reference)	1.23 (0.62- 2.44)			1.1 (0.76- 1.60)			1.66 (0.93- 2.97)		
Multivariate-adjusted	1.00 (Reference)	1.35 (0.72- 2.55)			1.19 (0.81- 1.75)			1.88 (1.09- 3.22)		

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分担研究報告書

生活習慣改善による胃がん予防法の開発に関する研究

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研究要旨

わが国における胃がんと生活習慣に関する疫学研究の文献的検討をおこなった。緑茶、塩蔵食品、body mass index と胃がんに関する疫学研究についての総括評価では、それぞれと insufficient, probable, insufficient と判定された。ヘリコバクター・ピロリ菌感染と胃がんに関する疫学研究は、コホート研究が 5 件(うちコホート内症例対照研究が 3 件)、症例対照研究が 14 件であり、いずれもほぼ一致した関連を認めた。

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I 日本における緑茶、塩蔵食品、body mass index (BMI)と胃がんに関する疫学研究結果の総括評価(表 S-2-5, S19, S20)

A. 研究目的

日本における緑茶、塩蔵食品、BMI と胃がんに関する疫学研究の結果について、本研究班の基準にもとづき関連性の強さを評価し、科学的根拠についての信頼性の強さを総合的に評価することである。

B. 研究方法

昨年度に米国国立図書館のデータベース PubMed を用いて、1) 緑茶、塩蔵食品、BMI と胃がんの罹患または死亡との関連を検討したコホート研究もしくは症例対照研究、2) 日本に住んでいる日本人を対象にした研究、の両条件をみたす文献を検索

し、緑茶、塩蔵食品、BMI それぞれについてエビデンステーブルを作成した。

同一の対象集団において複数の論文発表がなされている場合には、研究期間(追跡期間もしくは症例・対照の収集期間)が最も長いものを採用した。同一論文内で、結果が男女別に提示されている場合は、それぞれについて評価を実施した。

これらの文献について関連の強さ、科学的根拠としての信頼性を評価した。各研究の関連の強さは、相対危険度(オッズ比)および統計学的検定の結果から、strong(↑↑↑もしくは↓↓↓)で表示、以下同様)、moderate(↑↑もしくは↓↓)、weak(↑もしくは↓)、no association(ー)の4段階で評価した。

科学的根拠としての信頼性については、研究班のメンバーによる総合的な判断によって convincing、probable、possible、insufficient の4段階で評価した。(倫理面での配慮)

この研究方法は、既に論文に報告された結果に基づいており、倫理面での問題はない。

C. 研究結果

1. 緑茶(付表 S-2 付表 S-3)

緑茶と胃がんに関する研究はコホート研究が 7 件 (表 S-2)、症例対照研究が 3 件 (表 S-3) であった。

コホート研究では、緑茶と全部位の胃がんとの関連においては 7 件のいずれにおいても関連をみとめなかった。女性で遠位部に発生した胃がんについては、1 件の研究において中程度の負の関連をみとめた。症例対照研究では、3 件すべてにおいて弱い負の関連がみられた。

2. 塩蔵食品 (付表 S-4, S-5)

サマリーテーブル (付表 S-3, S-4) を示す。コホート研究は 11 件 (付表 S-4)、症例対照研究は 9 件 (付表 S-5) であった。これらの研究では塩蔵食品としておもに漬物、みそ汁、塩魚 (salted fish) を扱っていた。

コホート研究では、漬物に関する検討をおこなった研究が 9 件あり、このうち弱い以上の正の関連を示した研究が 5 件、関連なしが 3 件、リスク低下を示した研究が 2 件みられた。塩魚に関する検討をおこなった研究は 4 件あり、強い正の関連を示した研究が 1 件、関連なしが 3 件であった。食物摂取頻度調査票により推定した塩分摂取量について検討した研究は 2 件あり、1 件で強い正の関連がみられ、もう 1 件では男女別の解析で男性において強い正の関連がみられた。

症例対照研究では、漬物と胃がんとの関連について検討した研究が 8 件あり、弱い正の関連が 3 件、関連なしが 3 件、弱いリスク低下が 2 件でみられた。みそ汁またはみそについての研究は 6 件あり、弱い以上の正の関連が 3 件、関連なしが 2 件、弱いリスク低下が 1 件であった。塩魚については関連なしが 5 件、弱いリスク低下が 1 件でみられた。塩分摂取量について検討した研究は 1 件あったが関連はみられなかった。

3. BMI (付表 S-19, 20)

BMI と胃がんに関する研究はコホート研究が 1 件 (付表 S-19)、症例対照研究が 1 件 (付表 S-20) であった。いずれの研究においても関連はみられなかった。

D. 考察

緑茶と胃がんとの関連については基本的には関連なしを支持する結果であった。胃がんの発生部位別の検討については、個々の研究ではイベント数が少ないため日本における現行コホート研究のプール解析等による検討が必要である。

塩蔵食品と胃がんとの関連については、動物実験モデルでは一致した結果が示されているが、疫学研究では結果が一致していない。妥当性が確認された質問票を用いた研究が少ないことも結果が一致しないことに関係していると考えられた。

BMI については、研究の数が少ないため科学的根拠としての信頼性の強さを評価するのに十分ではなかった。

E. 結論

胃がんとの関連を科学的根拠の信頼性の点から評価したところ、緑茶については *insufficient*、塩蔵食品については *probable*、BMI については、*insufficient* となった。

F. 健康危険情報

なし

II 日本におけるヘリコバクター・ピロリ菌感染と胃がんに関する疫学研究のレビュー

A. 研究目的

胃がんに関連することが示唆されている要因であるヘリコバクター・ピロリ菌感染について日本人におけるエビデンスを収集することが本レビューの目的である。

B. 研究方法

PubMed を用いて、日本でおこなわれたヘリコバクター・ピロリ菌感染と胃がんとの関連に関するコホート研究もしくは症例対照研究の文献を検索した。文献検索は、平成 16 年 11 月におこなった。

(倫理面での配慮)

この研究方法は、既に論文に報告された結果に

基づいており、倫理面での問題はない。

C. 研究結果(表 II-1, 2)

ほぼすべての研究においてヘリコバクター・ピロリ菌感染の有無は、血清抗ヘリコバクター・ピロリ IgG 抗体価 (IgG) によって評価されていたが、組織学的評価・迅速ウレアーゼ試験を組み合わせで評価した研究 (Uemura et. al) もみられた。また近年、血清 CagA 抗体についての検討も行われている (Sasazuki et al., Shimoyama T et al., Yamaoka Y et al, Maeda S et al, Machida-Montani A et al.)。

コホート研究は 5 件あり、うち 3 件がコホート内症例対照研究であった (表 II-1)。症例対照研究は、14 件であった (表 II-2)。コホート研究では、1 件において女性で関連なし (Yamagata H et al.)、症例対照研究では 2 件の研究において胃がんとの関連がみられなかった (Fukuda H et al., Kitahara F et al.)。

D. 考察

胃粘膜の萎縮が進行した者では、ヘリコバクター・ピロリ菌に感染していても IgG は低くなり陰性と判定される可能性がある。このため、IgG のみで感染を定義した研究の一部で関連がみられなかったものと考えられた。一方、血清 CagA 抗体では陰転化は遅れておこるため IgG 陰性の感染者を区別することができより正確なリスクの推定ができているものと考えられた。

E. 結論

ヘリコバクター・ピロリ菌感染と胃がんとの関連においては一致した正の関連をみとめた。

F. 健康危険情報

なし

G. 研究発表

1. 論文発表

- 1) Ishikawa A, Tsuji I, et al. Smoking, alcohol drinking, green tea consumption and the risk of esophageal cancer in Japanese men. J Epidemiol 2006; 16: 185-92.
- 2) Kikuchi N, Tsuji I, et al. No association between green tea and prostate cancer risk in Japanese men: the Ohsaki Cohort Study. Br J Cancer 2006; 95: 371-3.
- 3) Kuriyama S, Tsuji I, et al. Green tea consumption and mortality due to cardiovascular disease, cancer, and all causes in Japan: the Ohsaki study. JAMA 2006; 296: 1255-65.
- 4) Sato Y, Tsuji I, et al. Meat consumption and risk of colorectal cancer in Japan: the Miyagi Cohort Study. Eur J Cancer Prev 2006; 15: 211-8.
- 5) Nishino Y, Tsuji I, et al. Tobacco smoking and gastric cancer risk: an evaluation based on a systematic review of epidemiologic evidence among the Japanese population. Jpn J Clin Oncol 2006; 36: 800-7.
- 6) Akhter M, Tsuji I, et al. Alcohol consumption is associated with an increased risk of distal colon and rectal cancer in Japanese men: The Miyagi Cohort Study. Eur J Cancer 2007; 43: 383-90.

2. 学会発表

- 1) 長沼透, 辻一郎, 他: コーヒー摂取と大腸がん罹患リスクに関する前向きコホート研究. 第 65 回日本公衆衛生学会総会, 2006, 富山.
- 2) 栗山進一, 辻一郎, 他: 緑茶摂取と全死因死亡、循環器疾患死亡、がん死亡リスクに関する前向きコホート研究. 第 17 回日本疫学会学術総会, 2007, 広島.

H. 知的財産権の出願・登録状況

なし

表II-1. ヘルピコバクター・ピロリ菌感染と胃がんとの関連に関するコホート研究 (エビデンステーブル)

References	Author	Year	List No.	Study period	Number of subjects for analysis, sex, age	Study population			Category	Number among cases	Relative risk (95%CI or p)	p for trend	Confounding variables considered	Comments
						Source of subjects	Event followed	Number of incident cases or deaths						
	Watanabe Y	1997	(1)	1987-1995	45 cases 225 controls nested within 2,858 subjects, ≥35 yr	population-based	incidence	45	IgG (-) IgG (+)	1.00 1.84 (0.59-5.72)	p=0.2912		Matched for age, sex, resident area	
	Yamagata H	2000	(2)	1988-1997 9 yr	2,602 1,070 men mean age 57yr 1,532 women mean age 59yr	population-based (Hisaysama study) (subjects without a history of gastrectomy or gastric cancer)	incidence	67 48 men 19 women	Men IgG (-) IgG (+) Women IgG (-) IgG (+) Proxymal one third IgG (-) IgG (+) Distal two thirds IgG (-) IgG (+) Intestinal IgG (-) IgG (+) Diffuse IgG (-) IgG (+)	5 40 6 11	1.00 2.59 (1.03-6.50) 1.00 0.99 (0.36-2.68)		Adjusted for age, BMI, serum cholesterol level, fasting plasma glucose level, smoking habits, alcohol intake, history of peptic ulcer disease, and dietary factors (intake of total energy, fat, salt, vitaminA, vitamin B1, vitamin B2, vitamin C, and dietary fibers)	

References	Study population						
	Year	List No.	Study period	Number of subjects for analysis, sex, age	Source of subjects	Event followed	Number of incident cases or deaths
Uemura N	2001	(3)	1990- mean 7.8yr	1,526 869 men 657 women mean age 52, range, 20 to 76	Hospital-based (subjects with duodenal ulcers, gastric hyperplasia, or nonulcer dyspepsia)	incidence	36
						Category	Number among cases
						H.pylori (-)	0
						H.pylori (+)	36
						Grade of atrophy	NA
						None or mild	3
						Moderate	8
						Severe	15
						Distribution of gastritis	
						Antrum predominant	2
						Pangastritis	14
						Corpus predominant	20
						Intestinal metaplasia	
						Absent	6
						Present	30
							Relative risk (95%CI or p)
							1.7 (0.8-3.7)
							4.9 (2.8-19.2)
							6.5 (3.6-11.1)
							7.1 (4.1-12.6)
							166.7 (71.1-377.0)
							1.0
							6.4 (2.6-16.1)
							p for trend
							Confounding variables considered
							H.pylori infection was assessed by histologic examination, serologic testing, and rapid urease tests and was defined by a positive result on any of these tests
Yatsuya H	2004	(4)	1988-1997 9 yr	202 cases 394 controls nested within JACC study 40-79 yr	population-based (JACC study)	incidence	202
						Men	
						Family history negative	
						IgG (-)	12
						IgG (+)	77
						Family history positive	
						IgG (-)	2
						IgG (+)	14
						Women	
						Family history negative	
						IgG (-)	7
						IgG (+)	66
						Family history positive	
						IgG (-)	2
						IgG (+)	22
							Adjusted for the number of siblings, smoking status, drinking habit, self-rated preference of salty foods, consumption of green-yellow vegetables, citrus fruits and green tea, and educational level
							1.81 (0.79-4.15)
							0.72 (0.11-4.86)
							1.66 (0.54-5.12)
							2.98 (1.10-8.02)
							1.84 (0.17-19.9)
							5.10 (1.58-16.5)
							Matched for age, sex, study area