Table 1. Tobacco smoking and gastric cancer risk, cohort study in Japanese population

Reference	Study period		Study popu	ılation		Category	Number among cases	Relative risk (95% CI or <i>P</i>)	P for trend	Confounding variables	Comments
		Number of subjects for analysis	Source of subjects	Event followed	Number of incident cases or deaths					considered	
Kono et al. (1987) (6)	1965-1983	5130 men	Male physicians in western Japan	Death	116 men	Never/Past		1.00		Age, drinking habit	
		27-89 years old				Current 1–19 cigarettes /day		1.66 (1.07–2.59)			
		Mean 49 years old				≥20		1.79 (1.09–2.96)			
Hirayama	1966-1982	122 261 men	95% of the census	Death	3414 men	Men				Age	90% CI
(1990) (7)		142 857 women	population in 29 health center- covered areas in 6		1833 women	Non-smoker		1.00		•	
		≥40 years old	prefectures			Daily smoker		1.45 (1.33–1.57)			
						1-9 cigarettes/day		1.45 (1.28–1.64)			
						10-19		1.41 (1.29–1.54)			
						≥20		1.49 (1.36–1.63)			
						Start ≤19 years old		1.60 (1.42-1.81)			
						≥20		1.39 (1.27–1.51)			
						1–4 years after cessation		1.54 (1.21–1.95)			
						5-9		1.59 (1.18-2.13)			
						≥10		0.87 (0.61-1.24)			
						Women					
						Non-smoker		1.00			
						Daily smoker		1.18 (1.05-1.33)			
						1-9 cigarettes/day		1.26 (1.06–1.48)			
						10-19		1.11 (0.91-1.34)			
						≥20		0.76 (0.46-1.26)			
						Start \leq 19 years old		1.25 (0.66-2.39)			
						≥20		1.16 (1.02-1.33)			
						1–4 years after cessation		1.42 (0.63–3.22)			
						5-9		1.82 (0.68-4.87)			
						≥10		1.40 (0.45-4.34)			

Table 1. Continued

Reference	Study period		Study popu	ulation		Category	Number among cases	Relative risk (95% CI or <i>P</i>)	P for trend	Confounding variables	Comments
		Number of subjects for analysis	Source of subjects	Event followed	Number of incident cases or deaths					considered	
Kato et al. (1992) (8)	1985–1989 (questionnaire	3914 subjects (1851 men	Patients who underwent	Incidence	45 cases (35 men and 10	Never	15	1.00		Age, sex, residence	
	survey)	and 2063 women)	endoscopy at Aichi Cancer		women)	Past	11	1.17 (0.47–2.94)			
			Center Hospital			Current 1–19 cigarettes /day	5	1.08 (0.36–3.26)			
	4.4 years of follow-up on average					≥20	14	2.24 (0.92–5.44)			
Kato et al.	1985-1991	9753 subjects	inhabitants of	Death	35 men	Men and women					
(1992) (9)		men \geq 40 years old	Higashi–kamo county in Aichi		22 women	Never	26	1.00		Age, sex, alcohol intake,	
		women ≥30 years old				Past	6	2.62 (0.97–7.05)		cooking methods, family history	
						Current	25	2.18 (1.07-4.43)		of stomach	
						Men				cancer	
						Never	7	1.00		Age, sex	
						Past	5	2.56 (0.81-8.12)			
						Current	23	2.58 (1.09-6.10)			
						Women					
						Never	19	1.00		Age, sex	
						Past	1	4.87 (0.64-36.8)			
						Current	2	1.69 (0.39-7.31)			
Inoue et al.	1985-1995	5373 subjects	Patients who	Incidence	69 cases (51	Men and women					
(1996) (10)	(mean 6 yr)	(2552 men and 2821 women)	underwent endoscopy at Aichi Cancer		men and 18 women)	Without atrophic gastritis				Age, sex	
			Center Hospital			Never		1.00			
						Past	Not	0.73 (0.29-1.81)			
						Current 1–19 cigarettes/day	specified	0.66 (0.20–2.18)			
						≥20		1.57 (0.71-3.48)			
						With atrophic gastritis					
						Never	25	1.00			
						Past	14	0.85 (0.39-1.85)			

						Current 1–19 cigarettes/day	4	0.69 (0.22–2.14)		
						≥20	19	1.57(0.74-3.32)		
Mizoue et al. (2000) (11)	1986–1996	4050 men	Residents in 4 municiparities of Fukuoka	Death	53 men	Never	5	1.0		Age, residense, alcohol
		≥40 years old	Prefecture			Past	22	2.2 (0.8-6.0)		
						Current	26	2.2 (0.8-5.7)		
						1–24 cigarettes / day	20	2.2 (0.8–6.0)		
						≥25	6	1.9 (0.6-6.4)		
Sasazuki et al.	1990-1999	19 657 men	Residents in 14	Incidence	293 men	Never	41	1.0		Age, area,
(2002) (12)		40-59 years old	administrative districts of 4 prefectures			Past	69	1.6 (1.1–2.4)		alcohol drinking, consumption
			•			Current	163	1.7 (1.2–2.4)		of fruit, green
						1-19 cigarettes/day	40	1.5 (0.9–2.3)		or yellow vegetables,
						20	79	2.0 (1.4–3.0)		salted cod roe or fish gut,
						≥21	43	1.5 (1.0–2.4)	0.63	body mass index
						Start ≥21 years old	57	1.9 (1.3-2.9)		
						20	74	1.6 (1.1–2.4)		
						10-19	32	1.6 (1.0-2.6)	0.38	
						0.05-20.9 pack- year	54	1.4 (0.9–2.1)		
						21-33	78	1.9 (1.3–2.8)		
						≥33.15	91	1.7 (1.2–2.5)	0.26	
						Cardia and upper- third				
						All histological types				
						Never	4	1.0		
						Past	7	1.6 (0.5-5.5)		
						Current	24	2.4 (0.8-7.1)		
						1-19 cigarettes/day	6	2.0 (0.6-7.2)		
						20	12	3.0 (0.9-9.6)		
						≥21	6	2.2 (0.6-8.0)	0.83	
						Start \geq 21 years old	13	4.2 (1.3–13.1)		
						20	6	1.2 (0.3-4.5)		
						10-19	5	2.4 (0.6 – 9.5)	0.06	

Table 1. Continued

Reference	Study period			Study population		Category	Number among cases	Relative risk (95% CI or <i>P</i>)	P for trend	Confounding variables	Comments
		Number of subjects for analysis	Source of subjects	Event followed	Number of incident cases or deaths			,		considered	
						0.05-20.9 pack- year	7	1.7 (0.5–5.9)			
						21-33	12	2.8 (0.9-8.9)			
						≥33.15	9	1.6 (0.5-5.5)	0.85		
						Distal gastric cancer					
						Differentiated types					
						Never	16	1.0			
						Past	33	2.0 (1.1-3.7)			
						Current	75	2.1 (1.2-3.6)			
						1-19 cigarettes/day	19	1.9 (1.0-3.7)			
						20	31	2.2(1.2-4.1)			
						≥21	25	2.6 (1.3-4.9)	0.31		
						Start ≥21 years old	25	2.2(1.2-4.3)			
						20	35	2.2 (1.2-4.0)			
						10-19	15	2.2 (1.1-4.5)	0.81		
						0.05-20.9 pack- year	20	1.3 (0.7–2.6)			
						21-33	42	2.7 (1.5-4.9)			
						≥33.15	42	2.2 (1.2-4.0)	0.16		
						Undifferentiated types					
						Never	18	1.0			
						Past	18	0.9 (0.5-1.8)			
						Current	27	0.6 (0.3-1.1)			
						1-19 cigarettes/day	11	0.9 (0.4-1.8)			
						20	11	0.6 (0.3-1.3)			
						≥21	5	0.3 (0.1-0.8)	0.09		
						Start ≥21 years old	6	0.4 (0.2-1.1)			
						20	16	0.7 (0.4-1.5)			
						1-19	5	0.5 (0.2-1.4)	0.50		
						0.05-20.9 pack- year	19	1.0 (0.5–2.0)			
						21–33	10	0.5 (0.2-1.1)			

						≥33.15	16	0.6 (0.3-1.3)	0.20	
Fujino et al.	1988-1997	18 746 men	Residents in 45	Death	261 men	Men				
(2002) (13)		26 184 women	areas throughout Japan		118 women	Never	42	1.00		Age
		≥18 years old in 1949				Past	84	1.12 (0.77–1.62)		
						Current	125	1.26 (0.88-1.78)		
						Women				
						Never	94	1.00		
						Past	1	0.44 (0.06-3.13)		
						Current	3	0.63 (0.20-1.98)		
Koizumi et al. (2003) (14)	cohort 1	Cohort 1 9980 men	Cohort 1	Incidence	Cohort 1 228 men	Cohort 1				Age, body mass index,
	1984–1992	Cohort 2 19 412 men	Residents in three municiparities of		Cohort 2 223 men	Never	37	1.00		history of peptic ulcer, parental
	cohort 2	Cohort $1 \ge 40$ years old	Miyagi Prefecture			Past	59	1.89 (1.24–2.87)		history of gastric cancer,
	1990-1997	Cohort 2 40– 64 years old	Cohort 2			Current	132	1.91 (1.31–2.79)		type of health insurance, alcohol, daily
			Residents in 14			Cohort 2				consumption of pickled
			municiparities of Miyagi Prefecture			Never	28	1.00		vegetables,
						Past	44	1.63 (1.01-2.63)		consumption of bean-paste
						Current	151	1.76 (1.17–2.66)		soup
						Pooled				
						Never	65	1.00		
						Past	103	1.77 (1.29–2.43)		
						Current	283	1.84 (1.39–2.43)		
						1-19 cigarettes/day	74	1.41 (1.00-1.98)		
						20-24	123	1.98 (1.45-2.71)		
						≥25	86	2.15 (1.53-3.02)	< 0.05	
						<5 years after cessation	35	1.72 (1.12–2.64)		
						5-14	48	2.08 (1.41-3.07)		
						≥15	20	1.31 (0.77-2.21)		
						Cardia				
						Never	12	1.00		
						Past	12	1.17 (0.52-2.64)		
						Current	40	1.29 (0.64-2.61)		

Table 1. Continued

Reference	Study period		Study popu	ılation		Category	Number among cases	Relative risk (95% CI or <i>P</i>)	P for trend	Confounding variables	Comments
		Number of subjects for analysis	Source of subjects	Event followed	Number of incident cases or deaths					considered	
						1-19 cigarettes/day	13	1.42 (0.63-3.23)			
						20-24	13	1.09 (0.45-2.62)			
						≥25	14	1.74 (0.70-4.33)	0.27		
						Body					
						Never	17	1.00			
						Past	26	1.62 (0.84-3.13)			
						Current	62	1.22 (0.69-2.15)			
						1-19 cigarettes/day	15	1.15 (0.54-2.47)			
						20-24	28	1.49 (0.79-2.82)			
						≥25	19	1.47 (0.74-2.95)	0.10		
						Antrum					
						Never	15	1.00			
						Past	28	2.08 (1.10-3.95)			
						Current	77	2.00 (1.13-3.55)			
						1-19 cigarettes/day	15	1.19 (0.57-2.48)			
						20-24	35	2.34 (1.24-4.40)			
						≥25	27	2.79 (1.42-5.48)	< 0.05		
						Differentiated					
						Never	38	1.00			
						Past	60	1.77 (1.17-2.67)			
						Current	147	1.61 (1.11-2.32)			
						1-19 cigarettes/day	37	1.20 (0.76-1.91)			
						20-24	63	1.70 (1.12-2.58)			
						≥25	47	1.97 (1.26-3.09)	< 0.05		
						Nondifferentiated					
						Never	11	1.00			
						Past	16	1.56 (0.72-3.41)			
						Current	56	2.10 (1.08-4.08)			
						1-19 cigarettes/day	13	1.66 (0.73-3.78)			
						20-24	28	2.61 (1.27-5.35)			
						≥25	15	2.05 (0.92-4.59)	< 0.05		

Fujino et al. (2005) (15)	1988-1999	43 482 men	Residents in 45 areas throughout	Death	522 men	Men			
(2003) (13)		54 480 women	Japan		235 women	Never	87	1.00	Age, alcohol, education
		40-79 years old				Past	164	1.24 (0.95–1.61)	level, preference for
						Current	271	1.33 (1.04–1.70)	salty foods, green tea consumption
						1-14 cigarettes/day	62	1.27 (0.91–1.76)	
						15-24	162	1.40 (1.08–1.83)	
						25-34	27	1.01 (0.65-1.56)	
						≥35	20	1.64 (1.00-2.68)	
						1–399 cigarette- years	30	1.38 (0.91–2.08)	
						400-799	114	1.36 (1.04–1.79)	
						≥800	116	1.31 (1.00-1.72)	
						Women			
						Never	220	1.00	
						Past	6	1.17 (0.51–2.65)	
						Current	9	0.77 (0.39-1.50)	
						1-14 cigarettes/day	6	0.86 (0.38-1.94)	
						15-24	3	0.74 (0.24-2.32)	
						25-34	0	_	
						≥35	0	_	
						1–399 cigarette- years	3	0.48 (0.15–1.49)	
						400-799	6	1.79 (0.79-4.05)	
						≥800	0	_	

Table 2. Tobacco smoking and gastric cancer risk, case—control study in Japanese population

References	Study period		Stud	y subjects		Category	Relative risk (95%CI or <i>P</i>)	P for trend	Confounding variables	Comments
		Type and source	Definition	Number of cases	Number of controls				considered	
Haenszel et al. (1976) (16)	1962-1964	(6 hospitals in	Cases: histologically confirmed in 98%	247 men (Hiroshima)	494 men (Hiroshima)	Nonusage	1.0		Matched (1:2) for sex, age, hospital	
	(Hiroshima)	Hiroshima and two hospitals	cases	279 men (Miyagi)	558 men (Miyagi)	Tabacco Use	1.14 (Hiroshima)		Adjusted for age,	
	1962–1965	in Miyagi)	Controls: patients with other diseases in the same hospital				1.31 (Miyagi)		sex, prefecture, occupation (farm, nonfarm)	
	(Miyagi) 1981–1984		services Cases: diagnosed on both clinical and histopathological examinations	59 men	111 men	Never	1.00		Matched for sex, age (±5 yrs), time of interview (±6 months)	*P < 0.05
						Current	1.99			
			Controls: patients without cancer			Current (adjusted by history of education)	2.06		Adjusted for age, sex	
						Brinkman Index <600	1.18			
						≥600	2.76			
						Start <20 years olds	3.96*			
						≥20	2.18			
Hoshino et al. (1985) (18)	1979-1982	Hospital- based	Cases: operated at the National Cancer	460 cases	460 controls	Men and Women			Matched(1:1) for sex, age (under 59	
			Center Hospital			Gastric cancer family history (–) smoking (–)	1.00		yrs or over 60 years), family history of cancer	
			Control: clinic patients at Minatoku and Setagayaku			Gastric cancer family history (+) smoking (-)	1.67*			
						Gastric cancer family history (–) smoking (+)	2.88*			
						Gastric cancer family history (+) smoking (+)	4.30*			

Table 2. Continued

References	Study period		Stud	ly subjects		Category	Relative risk (95%CI or <i>P</i>)	P for trend	Confounding variables	Comments
		Type and source	Definition	Number of cases	Number of controls				considered	
Kono et al.	1979-1982	Hospital-	Cases: histologically	74 men	Hospital controls	Hospital controls			Hospital controls	*P < 0.05
(1988) (19)		based (Karatsu Stomach Institute)	confirmed in 88% cases	65 women	1171 men	Men			Adjusted for age, sex	3) Smoked at least one
			Hospital controls:		1403 women	Never	1.0		1) Adjusted for	cigarette/day for 6 months
			patients without gastric cancer		Population controls	Ever Low ³⁾	1.2		age, sex, mandarin oranges, fruits, green tea	or more
			Population controls:		148 men	High ⁴⁾	1.9	< 0.05		4) Smoked
			drawn from the computerized file of residents		130 women	Women				≥20 cigarettes/day and for 30 ≥years
						Never	1.0			
						Ever Low ³⁾	2.5*			
	High ⁴⁾ 1.4	1.4	< 0.05							
						Men and Women				
						Never	1.0			
						Ever Low ³⁾	1.7*			
						High ⁴⁾	2.5*	< 0.05		
						Ever	$1.8 (1.1-2.9)^{1)}$			
						Population controls			Population controls	
						Men			Mached (1:2) for sex, year of birth	
						Never	1.0		2) Adjusted for	
						Ever Low ³⁾	1.1	NS	mandarin oranges, fruits, green tea	
						High ⁴⁾	1.8	NS		
						Women				
						Never	1.0			
						Ever Low ³⁾	1.1	NS		
						High ⁴⁾	1.0	110		

Men	and	Wome

							Never	1.0		
						Ever Low ³⁾	1.1			
						High ⁴⁾	1.8	NS		
						Ever	$1.3 (0.8-2.2)^{2}$			
Unakami et al	l. 1977–1986	Hospital-	Cases: operated at	924 men	140 men	Men	,			Smokers
(1989) (20)		based (Toranomon	Toranomon Hospital							included ex- smokers who
		Hospital)	Controls: outpatients	423 women	81 women	Never	1.0			had stopped
			without gastric cancer receiving			Smoker	2.8			smoking less than 5 years
			gastroendoscopic			Women	No significant			before surgery
			exam			Women	difference in the habit of smoking were observed between patients and the controls			
Kato et al.	1985-1989	Hospital-	Cases: histologically	289 men	1247 men	Men				
(1990) (21)		based (Aichi Cancer Center)	confirmed after receiving gastroscopic examinations	138 women	1767 women	Never	1.00		Adjusted for age, residence, breakfast, salted fish gut, cod roe, past history of gastric ulcer	
			Controls: patients			Ex-smoker	1.90 (1.19-3.03)			
			with normal gastric mucosa			Current 1–19 cigarettes/day	1.83 (1.02–3.28)			
						≥20	2.84 (1.79-4.51)			
						Diffuse type				
						Never	1.00		Adjusted for age, residence	
						Ex-smoker	2.67 (1.37-5.22)			
						Current 1–19 cigarettes/day	1.76 (0.73–4.22)			
						≥20	3.32 (1.71-6.44)			
						Intestinal type				
						Never	1.00			
						Ex-smoker	1.58 (0.91–2.75)			
						Current 1–19 cigarettes/day	2.25 (1.16–4.34)			
						≥20	2.95 (1.70-5.09)			

Table 2. Continued

References	Study period			Study subjects		Category	Relative risk (95%CI or <i>P</i>)	P for trend	Confounding variables	Comments
		Type and source	Definition	Number of cases	Number of controls		(95/001011)		considered	
						Women				
						Never	1.00		Adjusted for age, residence	
						Ex-smoker	1.28 (0.52-3.14)			
						Current 1–19 cigarettes/day	0.63 (0.22–1.79)			
						≥20	1.53 (0.63-3.74)			
						Diffuse type				
						Never	1.00			
						Ex-smoker	1.01 (0.30-3.39)			
						Current 1–19 cigarettes/day	0.49 (0.12–2.07)			
						≥20	1.09 (0.33-3.62)			
						Intestinal type				
						Never	1.00			
						Ex-smoker	1.18 (0.26-5.34)			
						Current 1–19 cigarettes/day	0.78 (0.17–3.58)			
						≥20	2.73 (0.75–9.91)			

Tominaga et al. (1991) (22)	1971–1985	Hospital- based (Tochigi Cancer Center)	Cases: newly histologically diagnoed gastric cancer at the center after the mass screening X-rays Control: subjects who received the same early detection program and were verified as being free of gastric cancer		588 controls (376 men and 212 women)	Men and Women Nonsmoker Smoker <20 cigarettes/day ≥20	1.0 3.56 (2.39–5.31) 2.58 (1.60–4.17)		Mached (1:2) for sex, age (±5years), area of residency	Persons who had stopped smoking for more than 5 years were included in non smoker category and those who had stopped smoking from 1 to 4 years were included in the smokers' category
Hoshiyama et al. (1992) (23)	1984—1990	Hospital- based (Saitama Cancer Center Hospital)	Cases: histologically confirmed cases Hospital controls: inpatients without cancer	294 cases (206 men and 88 women)	Population controls 294 controls (206 men and 88 women)	Men and Women Population controls			Population controls Matched (1:1) for sex, age, administrative division	
			Donulation controls			Never	1.0		A divisted for one	
			Population controls: randomly selected		Hospital controls	Past	1.0 (0.6–2.1)		Adjusted for age, sex,	
			from the electoral roll	l	202 controls (104 men and 98 women)	Current 1–29 cigarettes/day	1.2 (0.7–2.3)		administrative division, preference for salty foods, rice,	
						≥30	1.5 (0.7–3.2)		miso soup, boiled fish, pickled vegetables, nuts, seaweed, soybean products (except miso soup), fruits green—yellow vegetables, raw vegetables	
						Ever ≤800 cigarette	1.5 (0.9–2.4)		Adjusted for age,	
						years >800	1.6 (0.9–2.8)	0.13	sex, administrative division	
						Hospital controls			Hospital controls	
						Never	1.0		Adjusted for age, sex, area	
						Past	0.6 (0.3–1.3)			

Table 2. Continued

References	Study period		Stud	ly subjects		Category	Relative risk (95%CI or <i>P</i>)	P for trend	Confounding variables	Comments
		Type and source	Definition	Number of cases	Number of controls	s			considered	
						Current 1–29 cigarettes/day	1.0 (0.5–1.7)			
						≥30	0.7 (0.3–1.5)			
						Ever ≤800 cigarette years	0.9 (0.5–1.6)			
						>800	0.7 (0.3-1.4)	0.31		
Inoue et al. 1988–19 (1994) (24)	1988-1991	Hospital- based (Aichi	Cases: histologically confirmed cases	420 men	420 men	Men			Matched (1:1) for sex, age (± 2	
		Center)	Controls: first-visit outpatients without history of cancer	248 women	248 women	Never	1.00		years), time of first hospital visit (±2 months)	
						Past	2.39 (1.57-3.64)			
						<1 year after quiting	2.64 (1.17–5.19)			
						1-9	2.51 (1.52-4.14)			
						≥10	2.27 (1.39-3.69)			
						Current	2.70 (1.80-4.06)			
						1-19 cigarettes/day	2.70 (1.61–4.54)			
						≥20	2.70 (1.77-4.14)			
						Cardia				
						Never	1.00			
						Past	4.12 (1.55–11.0)			
						<1 year after quiting	6.85 (1.88–25.0)			
						1-9	4.68 (1.60-13.7)			
						≥10	2.81 (0.92-8.59)			
						Current	4.71 (1.81–12.3)			
						1-19 cigarettes/day	5.94 (2.04–17.3)			
						≥20	4.28 (1.59–11.5)			
						Middle				
						Never	1.00			
						Past	1.61 (0.89-2.91)			

<1 year after	3.63 (0.77-5.76)
quiting	3.03 (0.77-3.70)
1-9	1.41 (0.67-2.95)
≥10	1.70 (0.86-3.36)
Current	1.93 (1.10-3.40)
1-19 cigarettes/day	1.35 (0.62-2.97)
≥20	2.17 (1.21-3.90)
Antrum	
Never	1.00
Past	2.74 (1.50-5.01)
<1 year after quiting	2.14 (0.73–6.05)
1-9	3.03 (1.52-6.05)
≥10	2.72 (1.38-5.36)
Current	3.01 (1.68-5.42)
1-19 cigarettes/day	2.97 (1.45-6.10)
≥20	3.01 (1.64-5.53)
Women	
Never	1.00
Ever smoker	1.18 (0.71–1.97)
Cardia	
Never	1.00
Ever smoker	1.28 (0.52-3.11)
Middle	
Never	1.00
Ever smoker	1.00 (0.48-2.09)
Antrum	
Never	1.00
Ever smoker	1.31 (0.66-2.60)

Continued

Table 2. Continued

References	Study period		Stud	y subjects		Category	Relative risk (95%CI or <i>P</i>)	P for trend	Confounding variables	Comments
		Type and source	Definition	Number of cases	Number of controls	3			considered	
Murata et al.	1984-1993	participants in a gastric mass	Case: confirmed by	246 men	493 men	Nonsmoker	1.0		Matched (1:2) for	
(1996) (25)			record linkage with the Chiba Cancer Registry			Current 1–10 cigarettes/day	1.0		sex, birth year $(\pm 2 \text{ years})$, the first digit of the	smokers included those who had quit smoking within the past 2 years. Nonsmokers included past smokers who had quit smoking for 2 years or more
		screening by the Chiba	Control: participants in the screening without gastric cancer			11-20	1.1			
		Cancer Association in 1984)		·		≥21	1.1	0.2		
Huang et al. (1999) (26)	1990–1995	Hospital- based (Aichi Cancer Center)	Cases: histologically confirmed cases	595 men	7892 men	Men			Adjusted for age, sex, drinking habits	
		,	Controls: first-visit			Never	1.0			
		HERPACC study	outpatients without history of cancer			Current	2.22 (1.68–2.93)			
Inoue et al. (1999) (27)	1988—1995	Hospital- based (Aichi Cancer Center) HERPACC study	Cases: histologically confirmed cases	651 men	12041 men	Men			Adjusted for age, year and season at	
			enter) Controls: first-visit outpatients without history of cancer	344 women	31805 women	Never	1.0	family histo gastric canc habitual alc	first hospital visit, family history of	
						Former	1.70 (1.28–2.26)		gastric cancer, habitual alcohol drinking,	
						Current	2.50 (1.91–3.27)		preference of salty food, fruit intake	
						<20 cigarettes/day	2.50 (1.90-3.49)	< 0.001		
						≥20	2.50 (1.84–3.40)	<0.001		
						Start ≥20 years old	2.50 (1.90-3.29)			
						<20	2.51 (1.80-3.49)			
						Differentited				
						Never	1.0			
						Former	1.93 (1.30-2.86)			
						Current	2.73 (1.86–3.99)			
						<20 cigarettes/day	` /	< 0.001		
						≥20	2.76 (1.78-4.28)			

```
Start \geq20 years old 2.71 (1.84–3.99)
< 20
                   2.80 (1.75-4.48)
Non-differentiated
Never
                   1.0
                   1.50 (0.99-2.26)
Former
                   2.32 (1.59-3.38)
Current
<20 cigarettes/day 2.33 (1.58–3.45)
                                      < 0.001
\geq20
                   2.29 (1.50-3.50)
Start \geq20 years old 2.33 (1.58–3.43)
< 20
                   2.29 (1.45-3.61)
Women
Never
                   1.0
Former
                   1.37 (0.80-2.34)
Current
                   1.74 (1.28-2.36)
<20 cigarettes/day 1.73 (1.25–2.38)
\geq20
                   1.94 (0.85-4.47)
                                      < 0.05
Start \geq20 years old 1.77 (1.29–2.43)
< 20
                   1.36 (0.49-3.74)
Differentited
Never
                   1.0
Former
                   1.23 (0.49-3.09)
Current
                   1.60 (0.91-2.81)
<20 cigarettes/day 1.55 (0.86–2.81)
≥20
                   2.22 (0.53-9.36)
                                      NS
Start \ge 20 years old 1.71 (0.98-3.00)
< 20
Non-differentiated
Never
                   1.0
Former
                   1.42 (0.74-2.72)
Current
                   1.76 (1.21-2.54)
<20 cigarettes/day 1.76 (1.19–2.58)
\geq20
                   1.87 (0.68-5.14)
                                       < 0.05
Start \geq20 years old 1.76 (1.20–2.58)
< 20
                   1.75 (0.63-4.86)
```

Table 2. Continued

References	Study period		Stud	ly subjects		Category	Relative risk (95%CI or <i>P</i>)	P for trend	Confounding variables	Comments
		Type and source	Definition	Number of cases	Number of controls				considered	
Kikuchi et al.	1993-1995	Hospital-	Cases: newly	494 men	448 men	Men			Adjusted for age,	
2002) (28)		based (nine hospital in the Tokyo Metropolitan Area)	hospitalized with histologically confirmed cases	224 women	435 women	Never	1.0		Helicobactor pylori status, alcohol	
			Controls: recruited from several health check programs in a			Ever 1–399 cigarette-years	1.21 (0.76–1.92)			
			hospital in the same			400-799	2.00 (1.31-3.05)			
			area			≥800	2.63 (1.69-4.10)	< 0.001		
						Intestinal type				
						Never	1.0			
						Ever 1–399 cigarette-years	1.25 (0.73–2.15)			
						400-799	2.13 (1.31-3.44)			
						≥800	2.70 (1.65-4.42)	< 0.01		
						Diffuse type				
						Never	1.0			
						Ever 1–399 cigarette-years	1.06 (0.57–1.97)			
						400-799	1.63 (0.93-2.87)			
						≥800	2.44 (1.37–4.33)	< 0.01		
						Early				
						Never	1.0			
						Ever 1–399 cigarette-years	1.42 (0.81–2.47)			
						400-799	2.26 (1.37–3.75)			
						≥800	2.83 (1.68-4.78)			
						Advanced				
						Never	1.0			
						Ever 1–399 cigarette-years	0.98 (0.54–1.78)			
						400-799	1.71 (1.02-2.89)			
						≥800	2.45 (1.45-4.15)	< 0.01		

Never	1.0	
Ever 1–399 cigarette-years	1.15 (0.51–2.57)	
400-799	2.11 (1.06-4.17)	
≥800	2.83 (1.44-5.59)	< 0.01
Middle		
Never	1.0	
Ever 1–399 cigarette-years	0.87 (0.49–1.85)	
400-799	1.22 (0.72-2.07)	
≥800	2.10 (1.24-3.55)	0.01
Distal		
Never	1.0	
Ever 1–399 cigarette-years	1.95 (0.99–3.84)	
400-799	3.20 (1.75-5.86)	
≥800	3.47 (1.86-6.45)	< 0.01
Women		
Never	1.0	
Ever 1–399 cigarette-years	0.70 (0.40–1.22)	
≥400	3.61 (1.57-8.30)	0.016
≥400 Intestinal type	3.61 (1.57–8.30)	0.016
_	3.61 (1.57–8.30) 0.76 (0.33–1.77)	0.016
Intestinal type Ever 1–399		0.016
Intestinal type Ever 1–399 cigarette-years	0.76 (0.33–1.77)	
Intestinal type Ever 1−399 cigarette-years ≥400	0.76 (0.33–1.77)	
Intestinal type Ever 1–399 cigarette-years ≥400 Diffuse type Ever 1–399	0.76 (0.33–1.77) 2.50 (0.83–7.56)	0.20
Intestinal type Ever 1–399 cigarette-years ≥400 Diffuse type Ever 1–399 cigarette-years	0.76 (0.33–1.77) 2.50 (0.83–7.56) 0.69 (0.35–1.35)	0.20
Intestinal type Ever 1–399 cigarette-years ≥400 Diffuse type Ever 1–399 cigarette-years ≥400	0.76 (0.33–1.77) 2.50 (0.83–7.56) 0.69 (0.35–1.35)	0.20
Intestinal type Ever 1–399 cigarette-years ≥400 Diffuse type Ever 1–399 cigarette-years ≥400 Early Ever 1–399	0.76 (0.33–1.77) 2.50 (0.83–7.56) 0.69 (0.35–1.35) 2.89 (1.10–7.61)	0.20
Intestinal type Ever 1–399 cigarette-years ≥400 Diffuse type Ever 1–399 cigarette-years ≥400 Early Ever 1–399 cigarette-years	0.76 (0.33–1.77) 2.50 (0.83–7.56) 0.69 (0.35–1.35) 2.89 (1.10–7.61) 0.66 (0.31–1.40)	0.20

Table 2. Continued

References	Study period	Study subjects				Category	Relative risk			
		Type and source	Definition	Number of cases	Number of controls				considered	
-						≥400	2.65 (0.95-7.35)	0.12		
						Proximal				
						Ever 1–399 cigarette-years	0.34 (0.76–1.49)			
						≥400	3.43 (0.94–12.47)	0.05		
						Middle				
						Ever 1–399 cigarette-years	0.98 (0.51–1.87)			
						≥400	2.25 (0.81-6.25)	0.29		
						Distal				
						Ever 1–399 cigarette-years	0.50 (0.16–1.51)			
						≥400	2.90 (0.97-8.69)	0.06		
Inoue et al. (2002) (29)	1988-1998	Hospital- based (Aichi	based (Aichi Cancer Center) Controls: first-visit outpatients without history of cancer	365 women 1825 women (postmenopausal) (postmenopausal)		Never	1.0		Adjusted for age, year and season	
		Cancer Center)			Past	1.55 (0.92-2.61)		of interview, family history of		
		HERPACC study				Current	2.07 (1.46–2.93)		gastric cancer, raw vegetable and cooked fish intake	
						<20 cigarettes/day	2.09 (1.44-3.04)			
						≥20	2.00 (0.82-4.89)			
						Upper third				
						Past	2.26 (0.93-5.49)			
						Current	1.50 (0.70-3.24)			
						<20 cigarettes/day	1.54 (0.68–3.48)			
						≥20	1.36 (0.18–10.5)			
						Middle third Past	1.26 (0.56–2.84)			

						Current	2 (1.00 0.05)	
						<20 cigarettes/day	2.54 (1.55–4.14)	
						≥20	2.00 (0.57-7.02)	
						Lower third		
						Past	1.63 (0.72-3.68)	
						Current	2.27 (1.32–3.91)	
						<20 cigarettes/day	2.16 (1.20-3.87)	
						≥20	3.23 (0.91–11.5)	
						Differentiated		
						Past	1.49 (0.66–3.37)	
						Current	2.29 (1.36–3.85)	
						<20 cigarettes/day	2.22 (1.28–3.87)	
						≥20	2.89 (0.82–10.2)	
						Nondifferentiated		
						Past	1.57 (0.84–2.93)	
						Current	1.94 (1.27–2.95)	
						<20 cigarettes/day	2.01 (1.28-3.14)	
						≥20	1.63 (0.54-4.94)	
Minami et al. 19	997-2001	Hospital-	Cases: identified by	429 men	1222 men	Men and Women		Adjusted for age, $*P < 0.05$
(2003) (30)		based (Miyagi Cancer Center Hospital)	linkage with the hospital cancer registry	185 women	1222 women	Never	1.0	sex, year of survey, alcohol, family history of
			Controls: first			Former	1.17 (0.86–1.58)	stomach cancer in parents and
			admitted patients without history of cancer			Current	1.38 (1.06–1.80)	siblings, occupation
						Ever	1.31 (1.02–1.67)	
								Contin

2.44 (1.53-3.89)

Current

Table 2. Continued

References	Study period	_	Stud	y subjects		Category	Relative risk (95%CI or <i>P</i>)	P for trend	Confounding variables	Comments
		Type and source	Definition	Number of cases	Number of controls		())		considered	
						Men			Adjusted for age,	
						Never	1.0		year of survey, alcohol, family	
						Former	1.49 (1.06–2.09)		history of stomach cancer in parents and siblings, occupation	
						Current	1.71 (1.25-2.36)			
						Ever	1.62 (1.20-2.19)			
						1-10 cigarettes/day	1.34			
						11-20	1.70*			
						≥21	1.62*	0.0026		
						Duration ≤29 years	1.28			
						30-49	1.64*			
						≥50	1.90*			
						Women				
						Never	1.0			
						Former	0.41 (0.10-1.75)			
						Current	0.72 (0.38-1.37)			
						Ever	0.65 (0.36-1.18)			
						1-10 cigarettes/day	0.21*			
						11-20	0.66			
						≥21	1.07	0.1862		
						Duration ≤29 years	0.33			
						30-49	0.59			
						≥50	1.74			
Machida-	1998-2002		Cases: non-cardia	122 cases	235 controls	Men and Women			Matched (1:2) for	
Montani et al. (2004) (31)		in Nagano)	gastric cancer with histologic confirmation			Never	1.0		sex, age (within 3 years), residence area	
			Controls: participants			Past	2.8 (1.3-6.3)		Adjusted for H.	
			of a health check-up program during the same period in the same hospitals			Current	2.8 (1.2–6.5)	0.03	pylori infection, JA membership, family history of gastric cancer, total vegetable intake, total fruit intake, salt intake	

H. pylori (–) and never smoking	1.0
H. pylori (-) and smoking	1.9 (0.4–8.8)
H. pylori (+) and never smoking	6.4 (2.1–19.7)
H. pylori (+) and smoking	19.0 (5.4–67.2)
$\begin{array}{l} \text{(Interaction} \\ \text{term} = 0.52 \text{)} \end{array}$	
H. pylori (+) and never smoking	1.0
H. pylori (+) and smoking	3.0 (1.4–6.6)

Adjusted for JA membership, family history of gastric cancer, total vegetable intake, total fruit intake, salt intake