Table 2.14 Case−control studies (hospital-based) on cancer of the lung and coffee drinking (web only)

Reference, location enrolment/ follow-up period, study design	Population size, description, exposure assessment method	Organ site	Exposure category or level	Exposed cases/deaths	Risk estimate (95% CI)	Covariates controlled	Comments
Mettlin (1989) Baffalo, US 1982–1987 Case-control	Cases: 569; histologically confirmed lung cancer cases at Roswell Park Memorial Institute (355 men and 214 women), 35–90 years, with completed questionnaire Controls: 569; 1:1 matched within strata of age, sex, and residence. Exposure assessment method: questionnaire	Lung	All coffee (cups/day)			Sex, smoking history, β-carotene intake index, education level	Strengths: the matching and use of control variables relatively accurate. Limitations: hospital-based, one-centre, residual confounding
			Coffee intake	569	-		
			Never	133	1		
			< 1/day	99	1.01 (0.67–1.51)		
			2–3/day	162	0.94 (0.65–1.37)		
			4+ /day	175	1.26 (0.86–1.84)		
		Lung	All coffee (cups/day)			Sex, smoking history, β-carotene intake index, education level	
			Decaffeinated coffee intake	569	-		
			Never	348	1		
			< 1/day	110	0.66 (0.47–0.92)		
			2–3/day	61	0.44 (0.29–0.66)		
			4+ /day	50	0.79 (0.47–1.31)		
Restrepo et al. (1989) Colombia 1978–1980 Case-control	Cases: 102; newly diagnosed lung cancer cases, identified through social security cancer registry, two general hospitals and several private physicians. Controls: 181; matched to each case by	Lung	Coffee (cups/day)			Age, sex, socioeconomic level, number of cigarettes smoked per day, alcohol consumption	Strengths: use of compulsory government-sponsored health insurance programme that provides a favourable setting to access to patient materials, availability of interviewers, coverage of
			0	NR	1		
			1–3	NR	1.45		
			4–6	NR	0.58		
			≥ 7	NR	1.11		

Table 2.14 Case−control studies (hospital-based) on cancer of the lung and coffee drinking (web only)

Reference, location enrolment/ follow-up period, study design	Population size, description, exposure assessment method	Organ site	Exposure category or level	Exposed cases/deaths	Risk estimate (95% CI)	Covariates controlled	Comments
	sex, age within 2–3 years, and socioeconomic status. Exposure assessment method: other; personal interview		Trend-test p-value: 0.67				well-defined population, and provision of information of occupational factors. Limitations: hospital-based, case-control design
Chen et al. (1990) Taipei metropolitan area, Taiwan, China Year of enrolment not provided. Case-control	Cases: 323; 133 epidermoid (squamous cell) carcinomas, 47 small cell carcinomas, 134 adenocarcinomas, 9 other minor pathological types. Controls: 617; hospital controls group-matched with case on hospital, age and sex were recruited from ophthalmic patients of study hospitals with a control to case ratio of 3:1. Exposure assessment method: questionnaire; interview using a structured questionnaire	Lung (Squamous cell carcinoma)	All types of coffee			Age and sex	Coffee drinking was not significantly associated with any pathological type of lung cancer after cigarette smoking was adjusted. Strengths: Analysis by pathological subtype. Limitations: hospital-based, 95%CI not provided
			No	NR	1		
			Yes	NR	2.1		
		Lung (Small cell/Oat cell)	All types of coffee			Age and sex	
			No	NR	1		
			Yes	NR	1.44		
		Lung (Adenocarcinoma)	All types of coffee			Age and sex	
			No	NR	1		
			Yes	NR	1.25		
Mendilaharsu et al. (1998) Uruguay 1994–1996 Case-control	Cases: 427; primary lung cancer cases Controls: 428; hospitalized controls having conditions unrelated to tobacco smoking and diet,	Lung	All coffee (cups)			Age, residence, urban/rural status, tobacco smoking (pack-years), total energy intake, dairy foods, desert, all vegetables and fruits,	Strengths: men only Limitations: hospital-based case-control Residual confounding due to incomplete control of tobacco smoking Possibility of differential
			Non-drinkers	150	1		
			Ever drinkers	277	1.11 (0.72–1.73)		
			1 cup/week	43	1.32 (0.75–2.33)		

Table 2.14 Case−control studies (hospital-based) on cancer of the lung and coffee drinking (web only)

Reference, location enrolment/ follow-up period, study design	Population size, description, exposure assessment method	Organ site	Exposure category or level	Exposed cases/deaths	Risk estimate (95% CI)	Covariates controlled	Comments
	frequency matched to age and residence. Exposure assessment method: Questionnaire; face-to-face interview using questionnaire		2–3 cups/week	50	0.88 (0.49–1.55)	mate intake, caffeine index	misclassification of exposure, due to preclinical disease
			1 cup/day	80	1.2 (0.6–2.41)		
			2 or more cups/day	104	1.22 (0.53–2.8)		
			Trend-test p-value: 0.46				
		Lung: Kreyberg I tumours (Squamous cell and small cell carcinoma)	All coffee (cups)			Age, residence, urban/rural status, tobacco smoking (pack-years), total energy intake, dairy foods, desert, all vegetables and fruits, mate intake, caffeine index	
			Non-drinkers	90	1		
			Ever drinkers	161	1.11 (0.66–1.85)		
			1 cup/week	25	1.36 (0.71–2.62)		
			2–3 cups/week	29	0.87 (0.45–1.69)		
			1 cup/day	50	1.11 (0.49–2.52)		
			2 or more cups/day	71	1.06 (0.4–2.81)		
			Trend-test p-value: 0.72				
Kubík et al. (2001) Czech 1998–1999 Case- control	Cases: 282; microscopically confirmed female primary lung cancer cases Controls: 1120; spouses, relatives, or friends of other patients of the hospital, with conditions unrelated to smoking	Lung	Coffee intake frequency			Age, residence, education, pack-years of smoking	Strengths: stratified analysis by histology provided. Limitations: hospital-based
			Never	NR	1		
			Daily or several time per week	NR	0.66 (0.45–0.97)		

Table 2.14 Case−control studies (hospital-based) on cancer of the lung and coffee drinking (web only)

Reference, location enrolment/ follow-up period, study design	Population size, description, exposure assessment method	Organ site	Exposure category or level	Exposed cases/deaths	Risk estimate (95% CI)	Covariates controlled	Comments
	Exposure assessment method: other; in-person interview	Lung: Squamous, Small and Large cell carcinoma	Coffee intake frequency			Age, residence, education, pack-years of smoking	
			Never	NR	1		
			Daily or several time per week	NR	0.62 (0.35–1.05)		
		Lung: adenocarcinoma and Bronchioalveolar	Coffee intake frequency			Age, residence, education, pack-years of smoking	
			Never	NR	1		
			Daily or several time per week	NR	0.58 (0.35–0.99)		
Takezaki et al. (2001) Nagoya, Japan 1988–1997 Case-control	Cases: 1045 (748 male, 297 female); lung cancer cases, histologically confirmed, 40–79 years old Controls: 4153 (2964 male, 1189 female); cancer-free outpatients 1:4 matched for sex and age (within 5 years) Exposure assessment method: questionnaire	Lung (Adenocarcinoma)	Coffee (cups/day)			Age, year and season of hospital visit, occupation, lung diseases, smoking, consumption of green vegetables and meat	Strengths: large scale Limitations: selection bias since controls were recruited from non-cancer hospital outpatients
			Men	367	-		
			< 1 cup/day	NR	1		
			1	NR	0.85 (0.61–1.19)		
			2	NR	0.87 (0.6–1.25)		
			≥ 3	NR	1.18 (0.8–1.74)		
			Trend-test p-value: 0.654				
		Lung (Squamous cell carcinoma)	Coffee (cups/day)			Age, year and season of hospital visit, occupation, lung diseases, smoking, consumption of green vegetables and meat	
			Men	381	-		
			< 1 cup/day	NR	1		
			1	NR	0.98 (0.7–1.37)		
			2	NR	1.15 (0.8–1.64)		

Table 2.14 Case−control studies (hospital-based) on cancer of the lung and coffee drinking (web only)

Reference, location enrolment/ follow-up period, study design	Population size, description, exposure assessment method	Organ site	Exposure category or level	Exposed cases/deaths	Risk estimate (95% CI)	Covariates controlled	Comments
			≥ 3	NR	1.61 (1.09–2.39)		
			Trend-test p-value: 0.027				
		Lung (Adenocarcinoma)	Coffee (cups/day)			Age, year and season of hospital visit, occupation, lung diseases, smoking, passive smoking from husband, consumption of green vegetables and meat	
			Women	240	-		
			< 1 cup/day	NR	1		
			1	NR	0.76 (0.51–1.31)		
			2	NR	0.82 (0.49–1.35)		
			≥ 3	NR	1.28 (0.65–2.54)		
			Trend-test p-value: 0.823				
		Lung (Squamous cell carcinoma)	Coffee (cups/day)			Age, year and season of hospital visit, occupation, lung diseases, smoking, passive smoking from husband, consumption of green vegetables and meat	
			Women	57	-		
			< 1 cup/day	NR	1		
			1	NR	0.96 (0.43–2.18)		
			2	NR	0.61 (0.21–1.78)		
			≥ 3	NR	0.28 (0.05–1.58)		
			Trend-test p-value: 0.142				

Table 2.14 Case−control studies (hospital-based) on cancer of the lung and coffee drinking (web only)

Reference, location enrolment/ follow-up period, study design	Population size, description, exposure assessment method	Organ site	Exposure category or level	Exposed cases/deaths	Risk estimate (95% CI)	Covariates controlled	Comments
Kubík et al. (2004b) Czech 1998–2002 Case-control	Cases: 435; microscopically confirmed female primary lung cancer cases Controls: 1710; spouses, relatives, or friends of other patients of the hospital, with conditions unrelated to smoking Exposure assessment method: other; in-person interview	Lung	All subjects	435	-	Age, residence, education, pack-years of smoking	Strengths: stratified analysis by smoking provided. Limitations: hospital-based
			Never	50	1		
			Monthly or weekly	35	0.95 (0.55–1.84)		
			Daily	350	0.8 (0.55–1.17)		
			Trend-test p-value: 0.201				
		Lung	Non-smokers	124	-	Age, residence, education	
			Never	20	1		
			Monthly or weekly	18	1.05 (0.51–2.14)		
			Daily	86	0.9 (0.52–1.56)		
			Trend-test p-value: 0.631				
		Lung	Smokers	280	-	Age, residence, education, pack-years of smoking	
			Never	27	1		
			Monthly or weekly	15	0.6 (0.22–1.62)		
			Daily	238	0.47 (0.25–0.88)		
Kubík et al. (2004a) Czech 1998–2002 Case-control	Cases: 419; microscopically confirmed female primary lung cancer cases Controls: 1593; spouses, relatives, or friends of other patients of the hospital, with conditions unrelated to smoking	Lung	Coffee intake frequency			Age, residence, education	Strengths: stratified analysis by smoking provided. Limitations: hospital-based
			Nonsmokers	91	-		
			Never	NR	1		
			Daily or several time per week	NR	0.9 (0.59–1.38)		

Table 2.14 Case−control studies (hospital-based) on cancer of the lung and coffee drinking (web only)

Reference, location enrolment/ follow-up period, study design	Population size, description, exposure assessment method	Organ site	Exposure category or level	Exposed cases/deaths	Risk estimate (95% CI)	Covariates controlled	Comments
	Exposure assessment method: other; in-person interview		Smokers	246	-		
			Never	NR	1		
			Daily or several time per week	NR	0.56 (0.34–0.91)		
Baker et al. (2005) US 1982–1998 Case-control	Cases: 993 (624 male and 369 female); current and former smokers with primary incident lung cancer Controls: 986 (619 male and 367 female); hospital controls with non-neoplastic conditions, frequency matched (1:1) by age-, sex-, and smoking status. Exposure assessment method: Questionnaire; Patient Epidemiology Data System (PEDS) questionnaire as part of the admission process	Lung	Regular coffee	993	-	Sex, age, smoking status, known occupational exposure to other kinds of dust, known occupational exposure to smoke, number of cigarettes smoked per day, interaction between smoke exposure and cigarettes. (regular coffee), sex, age, smoking status (decaffeinated coffee)	Strengths: smoking status matched. Analysis by histology. Separate analysis between regular and decaffeinated coffee. Limitations: single centre, hospital-based
			None	201	1		
			≤ 1	157	1.01 (0.67–1.51)		
			2–3	293	0.94 (0.65–1.37)		
			4+	321	1.26 (0.86–1.84)		
			Decaffeinated coffee	993	-		
			None	564	1		
			≤ 1	198	0.67 (0.54–0.84)		
			2+	190	0.64 (0.51–0.8)		
		Lung (Adenocarcinoma)	Regular coffee	120	-	Sex, age, smoking status, known occupational exposure to other kinds of dust, known occupational exposure to smoke, number of cigarettes smoked per day, interaction between	
			None	36	1		
			≤ 1	23	0.9 (0.45–1.81)		
			2–3	23	0.6 (0.3–1.21)		
			4+	36	1.66 (0.9–3.04)		

Table 2.14 Case−control studies (hospital-based) on cancer of the lung and coffee drinking (web only)

Reference, location enrolment/ follow-up period, study design	Population size, description, exposure assessment method	Organ site	Exposure category or level	Exposed cases/deaths	Risk estimate (95% CI)	Covariates controlled	Comments
			Decaffeinated coffee	120	-	smoke exposure and cigarettes. (regular coffee), sex, age, smoking status (decaffeinated coffee)	
			None	65	1		
			≤ 1	24	0.66 (0.4–1.08)		
			2+	26	0.72 (0.44–1.17)		
		Lung: Large Cell Carcinoma	Regular coffee	170	-	Sex, age, smoking status, known occupational exposure to other kinds of dust, known occupational exposure to smoke, number of cigarettes smoked per day, interaction between smoke exposure and cigarettes. (regular coffee), sex, age, smoking status (decaffeinated coffee)	
			None	27	1		
			≤ 1	23	1.12 (0.55–2.26)		
			2–3	54	1.44 (0.78–2.66)		
			4+	60	1.82 (1–3.29)		
			Decaffeinated coffee	170	-		
			None	97	1		
			≤ 1	30	0.61 (0.39–0.95)		
			2+	32	0.64 (0.42–0.99)		
		Lung (Small cell/Oat cell)	Regular coffee	186	-	Sex, age, smoking status, known occupational exposure to other kinds of dust, known occupational exposure to smoke, number of cigarettes smoked per day, interaction between smoke exposure and cigarettes. (regular	
			None	38	1		
			≤ 1	21	0.67 (0.33–1.37)		
			2–3	54	1.51 (0.88–2.6)		
			4+	68	1.48 (0.86–2.53)		
			Decaffeinated coffee	186	-		

Table 2.14 Case−control studies (hospital-based) on cancer of the lung and coffee drinking (web only)

Reference, location enrolment/ follow-up period, study design	Population size, description, exposure assessment method	Organ site	Exposure category or level	Exposed cases/deaths	Risk estimate (95% CI)	Covariates controlled	Comments
			None	109	1	coffee), sex, age, smoking status (decaffeinated coffee)	
			≤ 1	35	0.63 (0.41–0.96)		
			2+	33	0.6 (0.4–0.92)		
		Lung (Squamous cell carcinoma)	Regular coffee	366	-	Sex, age, smoking status, known occupational exposure to other kinds of dust, known occupational exposure to smoke, number of cigarettes smoked per day, interaction between smoke exposure and cigarettes. (regular coffee), sex, age, smoking status (decaffeinated coffee)	
			None	70	1		
			≤ 1	70	1.12 (0.7–1.8)		
			2–3	101	1.28 (0.84–1.97)		
			4+	119	1.61 (1.05–2.47)		
			Decaffeinated coffee	366	-		
			None	211	1		
			≤ 1	76	0.69 (0.51–0.94)		
			2+	69	0.61 (0.44–0.83)		
Kubík et al. (2008) Czech 1998–2006 Case-control	Cases: 1096 (587 women, 509 men); microscopically confirmed primary lung cancer cases Controls: 2966 (2178 women, 788 men); spouses, relatives, or friends of other patients of the hospital, with conditions unrelated to smoking	Lung	Women	587	-	Age, residence, education (non-smokers), age, residence, education, pack-years of smoking (smokers)	Strengths: large number of samples Stratified analysis by histology and smoking status Limitations: hospital-based case-control self-report
			Non-smokers	NR	-		
			Less	NR	1		
			Daily or several times per week	NR	0.86 (0.48–1.2)		
			Smokers	NR	-		

Table 2.14 Case−control studies (hospital-based) on cancer of the lung and coffee drinking (web only)

Reference, location enrolment/ follow-up period, study design	Population size, description, exposure assessment method	Organ site	Exposure category or level	Exposed cases/deaths	Risk estimate (95% CI)	Covariates controlled	Comments
	Exposure assessment method: other; in-person interview		Less	NR	1		
			Daily or several times per week	NR	0.76 (0.48–1.2)		
		Lung	Men	509	-	Age, residence, education (non-smokers), age, residence, education, pack-years of smoking (smokers)	
			Non-smokers	NR	-		
			Less	NR	1		
			Daily or several times per week	NR	0.91 (0.43–1.92)		
			Smokers	NR	-		
			Less	NR	1		
			Daily or several times per week	NR	1.07 (0.61–1.86)		
		Lung: by Histology	Daily or several times per week versus Less			Age, residence, education, pack-years of smoking (smokers)	
			Women	NR	-		
			Adenocarcinoma	NR	0.93 (0.62–1.38)		
			Squamous cell	NR	0.8 (0.49–1.3)		
			Small cell	NR	0.9 (0.52–1.55)		
			Men	NR	-		
			Adenocarcinoma	NR	1.58 (0.74–3.36)		

Table 2.14 Case−control studies (hospital-based) on cancer of the lung and coffee drinking (web only)

Reference, location enrolment/ follow-up period, study design	Population size, description, exposure assessment method	Organ site	Exposure category or level	Exposed cases/deaths	Risk estimate (95% CI)	Covariates controlled	Comments
			Squamous cell	NR	0.98 (0.57–1.66)		
			Small cell	NR	0.93 (0.45–1.92)		
Ganesh et al. (2011) Mumbai, India 1997–1999 Case-control	Cases: 408; male microscopically confirmed primary lung cancer cases, average 56.2 years old. Controls: 1383; male patients free from cancer and not having any respiratory tract ailments and no evidence of disease, average 46.5 years old. Exposure assessment method: questionnaire; collected by social investigators	Lung	No	262	1	Age, literacy status, cigarette smoking, bidi smoking, tobacco chewer, alcohol drinker, consumption of milk, chicken, red meat, fish, chilli, and exposure to pesticide	Rough analysis Strengths: no Limitations: hospital-based
			Yes	142	1.9 (1.3–2.7)		

CI, confidence interval; NR, not reported

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