

Table 2.21 Cohort studies on cancer of the buccal cavity/pharynx 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
Stensvold and Jacobsen (1994) Norway 1977–82; average FU 10.1 years Cohort	21 735 men, 21 238 women; aged 35–54 years, excluded persons with cancer diagnosed before or during the month of the health screening Exposure assessment method: food frequency questionnaire; Self-administered	Oral cavity: Buccal cavity & pharynx	All coffee (cups/day)			Age, cigarettes per day, country of residence	Strengths: not mentioned Limitations: not mentioned
			Men	33	-		
			≤ 2	5	1		
			3–4	10	0.9		
			5–6	8	0.5		
		≥ 7	10	0.5			
		Coeff. for trend	33	-0.29 (-0.56--0.01)			
		Oral cavity: Buccal cavity & pharynx	All coffee (cups/day)			Age, cigarettes per day, country of residence	
			Women	12	-		
			≤ 4	6	1		
≥ 5	6		0.7				
Coeff. for trend	12		-0.44 (-0.95--0.08)				
Naganuma et al. (2008) Japan Enrolment from 1990; FU 13.6 years Cohort	38 679 subjects; aged 40–64 years with no previous history of cancer in Miyagi Cohort Study Exposure assessment method: food frequency questionnaire; Self-administered	Oral/Pharyngeal combined	All coffee			Age, sex, BMI, alcohol consumption, cigarette smoking, consumption of vegetables and fruits, green tea consumption	Strengths: the first prospective cohort study to focus on this issue; data on subjects from the general Japanese population; adequate number of cases of oral, pharyngeal, and oesophageal cancer (157 cases); long follow-up period Limitations: collection of information on coffee consumption only once, at baseline; substantially biased results by exclusion of the subjects
			Total subjects	48	-		
			Never	17	1		
			Occasionally	18	0.5 (0.26–0.99)		
			≥ 1 cup/day	13	0.35 (0.16–0.77)		
			Trend-test p-value: 0.009				

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		Oral/Pharyngeal combined	All coffee				
			Never smokers	20	-		who did not answer the question on coffee consumption; No information on type of coffee (filtered/boiled, caffeinated/decaffeinated) [However, because boiled or decaffeinated coffee is not commonly consumed in Japan, most of the subjects would have drunk instant or filtered caffeinated coffee]
			Never	7	1		
			Occasionally	9	0.78 (0.29–2.13)		
			≥ 1 cup/day	4	0.5 (0.14–1.81)		
			Trend-test p-value: 0.29				
Ren et al. (2010) USA Enrolment 1995–1996; Follow up to 2003 Cohort	481 563 participants; 286 402 men and 195 161 women aged 50–71 years in NIH-AARP Study Exposure assessment method: food frequency questionnaire	Oral cavity	All coffee (cups/day)				Strengths: large prospective analysis with exposure information collected before cancer diagnosis; Lag analysis to examine whether reverse causation affected our results Limitations: small case number; Confounding by these or other exposures, such as <i>Helicobacter pylori</i> infection and esophageal reflux disease, could still affect results; Lack of information on the usual temperature of coffee consumption
			< 1	89	1		
			1	65	1.07 (0.78–1.48)		
			2–3	157	0.85 (0.65–1.11)		
			> 3	81	0.85 (0.62–1.16)		
			Trend-test p-value: 0.14				
		Pharynx	All coffee (cups/day)				
			< 1	32	1		
			1	24	1.15 (0.68–1.96)		
			2–3	80	1.27 (0.83–1.94)		

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			> 3	41	1.23 (0.75–2.01)	vigorous physical activity, daily intake of fruit, daily intake of vegetables, daily intake of red meat, daily intake of white meat, daily intake of calories	
			Trend-test p-value: 0.34				
Tverdal et al. (2011) Norway Enrollment 1985–1999; Follow-up to 2007 Cohort	389 624; men and women aged 40–45, excluded persons who registered as having cancer before attending the screening Exposure assessment method: food frequency questionnaire	Oral cavity	All coffee (cups/day)			Sex, daily smoking, BMI, education	Strengths: potential confounders have been taken into account; Nearly complete follow-up; Limitations: no information about what people added to the coffee such as milk or sugar [Milk might influence the temperature of the coffee]; No information on preparing way of coffee and size of cup
			< 1	29	1.03 (0.68–1.55)		
			1–4	114	1		
			5–8	158	1.12 (0.88–1.44)		
			9+	53	0.96 (0.68–1.36)		
			Per 1 unit	354	1.01 (0.88–1.15)		
			Trend-test p-value: 0.92				
Hildebrand et al. (2013) USA Enrolment from 1982; FU 26 years Cohort	968 432; men and women (average age 57 years) without any cancer in Cancer Prevention Study II Exposure assessment method: food frequency questionnaire; Self-reported	Oral/Pharyngeal combined	Caffeinated (cups/day)			Age, sex, race, education, BMI, alcohol use, smoking, vegetable intake, intake of other beverages	Intake of > 4 cups/day of caffeinated coffee was associated with a 49% lower risk of oral/pharyngeal cancer heath relative to no/occasional coffee intake (RR = 0.51; 95%CI = 0.40–0.64) (1cup/day = 237ml) [text only] Strengths: prospective design; Detail information on history of tobacco, alcohol use and other covariates Limitations: no information on oral HPV status;
			Caffeinated coffee	302	-		
			No coffee or tea	25	1		
			< 1	15	0.85 (0.44–1.61)		
			1–2	98	0.8 (0.51–1.24)		
			3–4	91	0.68 (0.44–1.07)		
			> 4	73	0.58 (0.37–0.92)		
			Trend-test p-value: 0.01				

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		Oral/Pharyngeal combined	Caffeinated coffee (cups/day)			Age, sex, race, education, BMI, alcohol use, smoking, vegetable intake, tea consumption, decaffeinated coffee consumption	Predominantly white, middle aged or elderly, and well educated (not be generalizable to populations with different characteristics); lower oral/pharyngeal cancer mortality
			Nonsmoker for the past ≥ 20 years	180	-		
			No/occasional coffee	103	1		
			1–2	54	0.68 (0.49–0.95)		
			> 2	23	0.36 (0.23–0.58)		
			Trend-test p-value: 0.01				

BMI, body mass index; CI, confidence interval; FU, follow-up; RR, relative risk

References

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