

Table 2.1.2 Case–control studies on other cancers and mate 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
Pintos et al. (1994) Brazil 1987–1989 Case-control	Cases: 378; Hospital-based. Cases were patients with newly diagnosed carcinomas of the mouth, pharynx, and larynx in the only specialized cancer treatment centre in Curitiba, southern Brazil. Controls: 756; Controls were inpatients in the same hospital as cases or in another general hospital in Curitiba, excluding patients with cancer and mental disorders. Controls were matched to cases for sex, age (± 5 years), and trimester of hospital admission. Exposure assessment method: Questionnaire	Upper aerodigestive tract: Oral cavity, pharynx, larynx	Mate temperature			Conditional logistic regression (matching variables: age, sex, and admission period) adjusted for tobacco, alcohol, income, and rural residence	Strengths: - Limitations: Case-control design; the question on tea temperature was about subjective perception of temperature
			Never drinkers	150	1		
			Not hot, amount ≤ 1 Cuia	66	1.75 (1.1–2.7)		
			Not hot, amount ≥ 2 Cuia	97	2.23 (1.5–3.3)		
			Hot, amount ≤ 1 Cuia	14	0.62 (0.3–1.2)		
			Hot, amount ≥ 2 Cuia	50	1.05 (0.7–1.7)		
De Stefani et al. (1996) Montevideo, Uruguay 1988–1994 Case-control	Cases: 497; Hospital-based. All cases were histologically confirmed (SCC, 238 cases (47.9%); adenocarcinoma, 123 cases (24.7%); and small cell, 84 cases (16.9%). Controls: 497; Hospital-based. Controls were men with other cancers or nonneoplastic conditions admitted to the same hospital as cases. Exposure assessment method: Questionnaire	Lung	Mate temperature			NR. There was no association between mate temperature of lung cancer	Strengths: - Limitations: Case-control design; the question on tea temperature was about subjective perception of temperature
		Mate temperature	NR	1			

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De Stefani et al. (2007) Montevideo, Uruguay 1996–2000 Case-control	Cases: 255; Hospital-based. Cases were histologically confirmed consecutive cases transitional cell carcinoma of the bladder identified in the four major hospitals of Montevideo (Cancer Institute, Pasteur, Clinicas and Maciel). All cases were interviewed within one mo of their diagnosis. Controls: 501; Hospital-based (same hospitals as cases). Exposure assessment method: Questionnaire	Urinary bladder	Mate temperature			Age, sex, residence, urban/rural status, education, family history of bladder cancer among first-degree relatives, body mass index, occupation, smoking status, year since quitting, number of cigarettes smoked per day, coffee drinking, tea drinking, soft drink intake, and milk intake	Strengths: - Limitations: Case-control design; the question on tea temperature was about subjective perception of temperature
			Never drinker	18	1		
			Warm	11	2.1 (0.8–5.4)		
			Hot	191	2.1 (1.2–3.7)		
Szymańska et al. (2010) Seven centres in Latin America (Sao Paolo, Goiania, Rio de Janeiro, Pelotas, and Porto Alegre in Brazil, Buenos Aires in Argentina, and La Havana in Cuba) 1998 Case-control	Cases: 1168; Cases were patients with UADT cancers (628 oral and oropharyngeal, 410 hypopharyngeal and laryngeal, 80 oesophageal, and 50 overlapping cancers [results for oesophageal cancer is shown in another table]) newly diagnosed in one of the participating hospitals or referred to one of these hospitals for primary therapy, with no prior treatment. Controls: 1026; Controls were recruited from in- or out-patients at the same hospitals as the cases. Exposure assessment method: Questionnaire	Upper aerodigestive tract: Oral cavity and oropharynx	Mate temperature			Age, sex, centre, education, tobacco pack-year, and alcohol gram-year	Strengths: Multicenter, large-scale study. Limitations: Case-control design; the question on tea temperature was about subjective perception of temperature
			Never drinker	320	1		
			Cold/warm	85	2.89 (1.8–4.64)		
		Upper aerodigestive tract: Hypopharynx and larynx	Hot/very hot	206	1.15 (0.79–1.66)		
			Trend-test p-value: 0.73				
			Mate temperature				
Never drinker	187	1					
Cold/warm	45	2.33 (1.39–3.91)					
Hot/very hot	171	1.28 (0.87–1.9)					
Trend-test p-value: 0.51							

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Deneo-Pellegrini et al. (2013) Uruguay 1990–2001 Case-control	Cases: 696; Cases (only men) were identified from the Cancer Institute of Uruguay. Controls: 696; Male controls were recruited from the same institute as cases. Controls had conditions not related to smoking and alcohol drinking. Exposure assessment method: Questionnaire	Oral/Pharyngeal combined	Mate temperature			Age, residence, urban/rural status, education, income, pack year of tobacco, and alcohol year	Strengths: - Limitations: Case-control design; the question on tea temperature was about subjective perception of temperature
			Never drinker	54	1		
			Warm	80	0.88 (0.53–1.49)		
			Hot	562	1.11 (0.74–1.66)		
			Trend-test p-value: 0.37				
		Oral/Pharyngeal combined	Mate temperature			Same as above, plus terms for interaction (mate variable x pack year and alcohol year)	
			Never drinker	54	1		
			Warm	80	1.25 (0.89–3.17)		
			Hot	562	2.95 (1.37–6.36)		
			Trend-test p-value: 0.001				
Oral cavity	Mate temperature			Same as above			
	Never drinker	NR	1				
	Warm	NR	2.6 (1.01–7.2)				
	Hot	NR	3.8 (1.31–11)				
	Trend-test p-value: 0.006						

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		Pharynx	Mate temperature			Same as above	
			Never drinker	NR	1		
			Warm	NR	1.79 (0.98–6.79)		
			Hot	NR	2.56 (1.1–5.98)		
			Trend-test p-value: 0.03				
De Stefani et al. (2011) Montevideo, Uruguay 1990–2004. Results for some individual cancer sites are shown in separate papers included in this table (with total or partial overlap between participants). These cancer sites include lung (De Stefani et al., 2011), urinary bladder (De Stefani et al., 2007), and oral/pharynx (Deneo-Pellegrini et al., 2013). Case-control	Cases: 8875; Cases were recruited in the four major public hospitals in Montevideo and included cases of cancers of the mouth, pharynx, oesophagus, stomach, colon, rectum, larynx, lung, female breast, cervix uteri, prostate, bladder and kidney were included in the study. Controls: 4326; Controls were drawn from the same hospitals and in the same time period. Exposure assessment method: Questionnaire	Upper aerodigestive tract: Mouth, pharynx, and larynx	Mate temperature			Age, sex, residence, education, income, smoking status, smoking cessation, smoking intensity, and alcohol drinking	Strengths: - Limitations: Case-control design; the question on tea temperature was about subjective perception of temperature
			Never drinker	NR	1		
			Warm	NR	1.01 (0.77–1.31)		
			Hot	NR	1.41 (1.12–1.79)		
			Trend-test p-value: 0.0001				
		Upper aerodigestive tract: Mouth	Mate temperature			Same as above	
			Never drinker	NR	1		
			Warm	NR	0.74 (0.47–1.16)		
			Hot	NR	1.13 (0.76–1.67)		
			Trend-test p-value: 0.21				
Upper aerodigestive tract: Pharynx	Mate temperature			Same as above			
	Never drinker	NR	1				

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			Warm	NR	0.95 (0.61–1.46)			
			Hot	NR	1.25 (0.84–1.86)			
			Trend-test p-value: 0.13					
		Upper aerodigestive tract: Larynx	Mate temperature			Same as above		
			Never drinker	NR	1			
			Warm	NR	0.91 (0.59–1.4)			
			Hot	NR	1.57 (1.07–2.31)			
			Trend-test p-value: 0.001					
		Stomach/gastric cancer	Mate temperature			Same as above		
			Never drinker	NR	1			
			Warm	NR	1.29 (0.86–1.95)			
			Hot	NR	1.39 (0.98–1.96)			
			Trend-test p-value: 0.07					
		Colon	Mate temperature			Same as above		
			Never drinker	NR	1			
			Warm	NR	1.12 (0.73–1.71)			

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			Hot	NR	1.14 (0.8–1.62)			
			Trend-test p-value: 0.49					
		Rectum	Mate temperature			Same as above		
			Never drinker	NR	1			
			Warm	NR	0.96 (0.66–1.38)			
			Hot	NR	1.01 (0.74–1.38)			
			Trend-test p-value: 0.91					
		Colon & rectum	Mate temperature			Same as above		
			Never drinker	NR	1			
			Warm	NR	1.03 (0.77–1.37)			
			Hot	NR	1.07 (0.88–1.36)			
			Trend-test p-value: 0.6					
		Lung	Mate temperature			Same as above		
			Never drinker	NR	1			
			Warm	NR	1.29 (0.99–1.67)			
			Hot	NR	1.95 (1.53–2.49)			
			Trend-test p-value: 0.0001					

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		Breast: Female	Mate temperature				Same as above
			Never drinker	NR	1		
			Warm	NR	1.04 (0.86–1.27)		
			Hot	NR	1.16 (0.96–1.4)		
			Trend-test p-value: 0.11				
		Cervix/uterine cervix	Mate temperature				Same as above
			Never drinker	NR	1		
			Warm	NR	2.04 (1.23–3.4)		
			Hot	NR	1.56 (0.88–2.76)		
			Trend-test p-value: 0.13				
		Prostate	Mate temperature				Same as above
			Never drinker	NR	1		
			Warm	NR	1.3 (0.88–1.92)		
			Hot	NR	1.58 (1.18–2.13)		
			Trend-test p-value: 0.002				

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		Urinary bladder	Mate temperature			Same as above	
			Never drinker	NR	1		
			Warm	NR	1.37 (0.82–2.28)		
			Hot	NR	2.42 (1.58–3.69)		
			Trend-test p-value: 0.0001				
		Kidney	Mate temperature			Same as above	
			Never drinker	NR	1		
			Warm	NR	1.35 (0.83–2.19)		
			Hot	NR	1.96 (1.22–3.14)		
			Trend-test p-value: 0.004				

CI, confidence interval; NR, not reported

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