

**Table 2.3. Cohort studies on consumption of alcoholic beverages and cancer of the oral cavity and pharynx**

Reference, study location, period	Characteristics of study population	Organ site (ICD code)	Exposure categories	No. of cases/deaths	Relative risk	95% CI	Adjustment factors	Comments
Ide <i>et al.</i> (2008) Japan Japan Collaborative Cohort (JACC) Study. recruitment 1988–1990, mean follow-up, 12.5 years	Cohort of 77 847 (46 34 136 men and 43 711 women) followed by population register; 52 cases of oral and pharyngeal cancers,. Self-administered questionnaire	Oral cavity and pharynx (ICD10: C01–06 & C09-C14)	<i>Men</i> Non-drinker Past drinker Current < 2.0 go/day ≥ 2.0 go/day <i>Women</i> Non-drinker Current drinker	5 2 34 11 19 9 2	1.0 1.2 2.0 1.2 3.2 1.0 0.8	   0.2–6.0 0.8–5.1 0.4–3.5 1.2–8.7   0.2–3.7	Age, smoking status, consumption of green tea, preference for salty foods, consumption of green-yellow vegetables	One go is a conventional unit of Japanese sake and contains 23 g of alcohol
Muwonge <i>et al.</i> , (2008) India	Nested case-control study in a cohort of participants in a screening study. 282 cases and 1 410 controls, matched on sex, age, living area and response status. Face to face interview	Oral cavity (ICD-10: C001-C009, C020-C023, C028–31, C039-C041, C048-C050, C059-C062, C068-C069)	Alcohol consumption Never Ever Past Current <i>Frequency</i> 1–3 days/week 4–7 days/week <i>Duration</i> < 20 years 20–39 years 40+ years p for trend	74 89 23 66 17 56 22 38 14	1.0 1.4 1.3 1.4 1.5 1.7 1.4 1.5 3.3 0.05	  0.9–2.1 0.7–2.4 0.9–2.2  0.7–2.9 1.0–2.7  0.7–2.6 0.9–2.6 1.4–7.7	Education, religion, smoking and chewing habits	Not statistical power to test for interactions between smoking, alcohol and betel chewing. Only males in the analysis of alcohol

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Weikert <i>et al.</i> (2009) European Prospective Investigation into Cancer and Nutrition	Cohort of 271 253 participants from six European countries, 126 cases men, 62 cases women. Only squamous cell carcinoma. Interview or, mostly, self-administered questionnaire	Oral cavity (ICD-O-2: C01-C06), oro- and hypopharynx (ICD-O-2: C09-C10; C13-C14)	<i>Baseline alcohol</i>				Smoking, education, BMI, fruit and vegetable consumption, never drinkers, former drinkers	No estimates on oral cavity and pharynx separately.
			Men		1.15	1.10–1.20		
			Women		1.18	1.04–1.33		
			per 10 g/d increase		1.09	1.06–1.12		
Friborg <i>et al.</i> (2007) Singapore Chinese Health Study 1993–2005	Cohort of 61 320 ethnic Chinese men and women aged 45–74 years in Singapore within randomly selected government-built housing estates; 85% participation rate. 173 nasopharyngeal cancers (153 undifferentiated carcinomas, 12 unspecified carcinomas, 5 squamous cell carcinomas, 3 adenocarcinomas) and 87 other oropharyngeal cancers. Face to face interview	Naso-pharynx (ICD-O: C11)	<i>Frequency of alcohol consumption</i>				Age, sex, dialect group, year of interview, level of education, summed intakes of protein-rich preserved food items, summed intakes of fresh vegetables, family history of nasopharynx cancer, number of years of smoking	
			Non drinkers	128	1.0			
			Monthly	15	1.0	0.6–1.6		
			Weekly	20	1.0	0.6–1.7		
			Daily	10	1.2	0.6–2.3		
			<i>Drinks per week</i>					
		Non drinkers		1.0				
		1–7	30	0.9	0.6–1.4			
		> 7	15	1.3	0.8–2.3			
		Other oropharynx (ICD-O: C01–06, 09, 10, 12, 13)	<i>Frequency of alcohol consumption</i>					
			Non drinkers	44	1.0			
			Monthly	3	0.6	0.2–2.1		
Weekly	14		2.3	1.2–4.3				
Daily	14		4.1	2.2–7.7				
<i>Drinks per week</i>								
Non drinkers		1.0						
1–7	14	1.4	0.8–2.7					
> 7	17	3.8	2.1–7.0					

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Freedman <i>et al.</i> (2007a) USA	492 960 participants in the NIH-AARP Diet and health study cohort (794 cases (611 men and 183 women). Self-administered (mailed) questionnaire)	Oral cavity (ICD-O-3: C00.1-C06.9)	<i>Total alcohol</i>				Gender, age, body mass index, smoking status, vigorous physical activity, usual activity throughout the day, fruit intake, vegetable intake, and total energy	Results generally similar when stratified for beverage type. Low frequency of heavy wine drinking. < 1 drink/ day reference group
			<i>Women</i>					
			0 drink per day	24	1.24	0.74–2.10		
			< 1 drink per day	38	1.0			
			1–3 drinks per day	15	1.74	0.95–3.20		
			> 3 drinks per day	9	2.81	1.29–6.11		
				p trend	0.013			
		<i>Men</i>						
		0 drink per day	57	1.43	1.03–2.00			
		< 1 drink per day	92	1.0				
		1–3 drinks per day	44	1.22	0.85–1.76			
		> 3 drinks per day	43	1.52	1.01–2.27			
		p trend	0.062					
<i>Total alcohol</i>		Oropharynx and hypopharynx (ICD-O-3: C09.0-C09.9, C10.0-C10.9, C12.9, C13.0-C13.9, C14.0)				0.63–3.58		
<i>Women</i>								
0 drink per day	9		1.50					
< 1 drink per day	13		1.0	1.40–7.52				
1–3 drinks per day	10		3.24	0.42–9.31				
> 3 drinks per day	2		1.97					
		p trend	0.132					
<i>Men</i>								
0 drink per day	37	2.83	1.74–4.61					
< 1 drink per day	30	1.0						
1–3 drinks per day	18	1.53	0.85–2.76					
> 3 drinks per day	24	2.32	1.29–4.18					
		p trend	0.003					

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Allen <i>et al.</i> (2009) United Kingdom	Million Women Study: cohort of 1 280 296 middle-aged women in the United Kingdom; 758 cases. Self-administered questionnaire	Oral cavity and pharynx (ICD10: C00-C14)	<i>Total alcohol</i>				Age, region of residence, socioeconomic status, body mass index, smoking, physical activity, use of oral contraceptives, and hormone replacement therapy	Floated confidence intervals, ≤ 2 drinks/week reference group No difference by beverage type
			Non drinks	201	1.18	1.02–1.36		
			≤ 2 drinks per week	179	1.00	0.86–1.16 (ref.)		
			3–6 drinks per week	158	1.13	0.97–1.32		
			7–14 drinks per week	142	1.13	0.96–1.34		
≥ 15 drinks per week	78	1.99	1.59–2.50					
			P trend			< 0.001		