

Table 2.9. Cohort studies of consumption of alcoholic beverages and oesophageal cancer

Reference, location, name of study	Cohort description	Exposure assessment	Cancer site (ICD code)	Exposure categories	No. of cases/deaths	Relative risk (95% CI)	Adjustment factors	Comments
Ozasa (2007), Japan, Japan Collaborative Cohort Study	Cohort of 109 778 (46 178 men, 63 600 women) resident in 45 areas across Japan recruited in 1988–90, age range 40–79 yrs, 153 deaths in men, 27 deaths in women. Histology information not stated.	Self-administered questionnaire	Oesophagus (ICD 10: C15)	Alcohol intake (mL/day)			Age, area of study	Significant positive association with duration of drinking and age at start of drinking Low number of women cases, very few women drank alcohol
				<i>Men</i>				
				Rare/none	14	1.00		
				< 54	28	1.33 (0.67–2.62)		
				54–80	50	3.71 (1.95–7.04)		
				≥ 81	25	4.63 (2.28–9.37)		
				<i>Women</i>				
				Rare/none	18	1.00		
				< 54	5	2.06 (0.74–5.73)		
				≥ 55	0	-		
				<i>Years since drinking cessation</i>				
				Rare/non-drinker	14	1.00		
				< 5	4	3.75 (1.16–12.1)		
				5–15	3	2.76 (0.76–10.0)		
				15+	1	1.03 (0.13–8.12)		

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Allen <i>et al.</i> (2009) United Kingdom	Million Women Study: cohort of 1 280 296 middle-age women in the United Kingdom.	Self-administered questionnaire	Oesophagus (ICD 10: C15)	Nonadenocarcinoma			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
				<i>Total alcohol</i>				
				Non drinkers	117	1.56 (1.29–1.89)		
				≤ 2 drinks/week	76	1.00 (0.80–1.25)		
				3–6 drinks/week	72	1.22 (0.97–1.54)		
				7–14 drinks/week	82	1.56 (1.26–1.94)		
				≥ 15 drinks/week	48	2.99 (2.24–4.00)		
				P trend		< 0.001		
				Adenocarcinoma				
				<i>Total alcohol</i>				
				Non drinkers	76	1.28 (1.01–1.63)		
				≤ 2 drinks/week	60	1.00 (0.77–1.29)		
				3–6 drinks/week	55	1.25 (0.96–1.62)		
Weikert <i>et al.</i> (2009), European Prospective Investigation into Cancer and Nutrition	Cohort of 271 253 participants from six European countries, 52 cases men, 35 cases women. Squamous cell carcinomas only.	Interview or, mostly, self-administered questionnaire	Oesophageal cancer (ICD 10: C15) (squamous cell carcinoma)	<i>Baseline alcohol</i>			Smoking, education, body mass index, fruit and vegetable consumption, never drinkers, former drinkers	
				Men				
				Per 10 g/d increase	52	1.22 (1.15–1.29)		
				Women				
				per 10 g/d increase	35	1.31 (1.12–1.53)		
				<i>Lifetime alcohol</i>				
				Men				
				per 10 g/d increase	52	1.18 (1.10–1.27)		
				Women				
				per 10 g/d increase	35	1.35 (1.13–1.60)		

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Freedman <i>et al.</i> (2007b) USA, NIH-AARP Diet and Health Study	Cohort of 492 960 participants aged 50 years older from prospective population studies	Self-administered questionnaire	Oesophagus (ICD-O: C15.0-C15.9) (squamous cell carcinoma)	Total alcohol 0	23	Hazard ratop 2.06 (1.16–3.98)	Sex, age, body mass index, smoking status, level of education, vigorous physical activity, usual activity throughout the day, fruit intake, vegetable intake, and total energy	No significant difference by beverage type.
				> 0–1 drinks/day	24	1.00		
				> 1–3 drinks/day	20	2.33 (1.28–4.24)		
				> 3.0 drinks/day	30	4.93 (2.69–9.03)		
				p-trend		<0.0001		
			Oesophagus (adenocarcinoma)	Total alcohol 0	42	Hazard ratop 0.96 (0.66–1.38)		
				> 0–1 drinks/day	101	1.00		
				> 1–3 drinks/day	35	0.95 (0.64–1.40)		
				> 3.0 drinks/day	27	1.10 (0.69–1.74)		
				p-trend		0.68		
Fan <i>et al.</i> (2008), Shanghai, The Shanghai Cohort Study	Population-based cohort study of 18 244 men in Shanghai (45–64 years of age) 20 years of follow-up from 1986, 282 679 person-years follow-up 101 cases in total, 68 squamous cell (6 diagnosed with cytology), 8 adenocarcinoma, 1 other and 24 unknown.	Face to face interview on demographic characteristics, tobacco and alcohol use and usual diet	Oesophagus	<i>Drinking status</i>			Age, year of interview, neighbourhood of residence at recruitment, level of education, body mass index, number of years of smoking and intakes of preserved foods, fresh fruits and fresh vegetables	A positive association was found for age at starting to drink, years of drinking and lifetime ethanol intake.
				Non-drinkers	32	1.00		
				Regular drinkers	69	2.02 (1.31–3.12)		
				<i>Ethanol intake (g/day)</i>				
				Non-drinkers				
				< 20	32	1.00		
				20- < 40	19	1.42 (0.81–2.52)		
				40- < 80	14	1.67 (0.88–3.18)		
				80+	24	2.88 (1.64–5.06)		
				p-trend	12	4.65 (2.31–9.36)		
						< 0.0001		

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Ishiguro <i>et al.</i> (2009), Japan JPHC Study	Population-based cohort study of 44 970 middle-aged and older Japanese men. 215 cases of oesophageal squamous cell carcinoma	Self-administered questionnaire	Oesophagus (ICD-O-3: C15.0-C15.9) (squamous cell carcinoma)	<i>Alcohol intake</i>			Age, study area, smoking status, body mass index, preference for hot foods and drinks, flushing response	No significant interaction between smoking status and alcohol intake ($P = 0.70$)
				Non drinkers (≤ 1 day/month)	24	1.00		
				Occasional drinkers (1–3 days/months)	5	0.60 (0.21, 1.75)		
				Regular drinkers				
				1–149 g/week	41	1.64 (0.96, 2.78)		
				150–299 g/week	55	2.59 (1.57, 4.29)		
				300+g/week	90	4.64 (2.88, 7.48)		
				p-trend		0.001		
				Alcohol flushing negative				
				< 300 g/week	48	1.00		
				300+g/week	48	1.99 (1.31, 3.03)		
				Alcohol flushing positive				
				< 300 g/week	53	0.94 (0.62, 1.42)		
				300+g/week	42	2.86 (1.86, 4.40)		
				P interaction = 0.15				

ICD, international classification of disease; CI, confidence interval; SIR, standardized incidence