

Table 2.28. Case-control studies on tobacco smoking and laryngeal cancer

Reference, Country and years of study	Cancer subsite	Smoking categories	Relative risk (95% CI)	Comments
Talamini <i>et al.</i> (2002) Italy and Switzerland 1992-2000	Squamous cell carcinoma ICD-9 161.0 supraglottis 161.2 subglottis 161.3 laryngeal cartilage 161.8 overlapping larynx 161.9 larynx unspecified	Non smoker Former smoker Current smoker <i>Frequency (cigarettes/day)</i> 1-14 15-24 ≥25 <i>Tar yield (mg)</i> ≤19 >19 <i>Duration (years)</i> 1-29 30-39 ≥40 <i>Age starting smoking (years)</i> <17 17-19 ≥20	1.0 7.0 (4.2–11.9) 19.8 (11.9–32.9) 9.8 (5.5–17.6) 29.9 (17.0–52.5) 42.9 (22.8–80.9) 19.3 (11.4–32.7) 27.1 (14.9–49.2) 8.7 (4.5–16.8) 16.8 (9.4–30.0) 37.2 (20.2–68.5) 24.4 (13.6–43.8) 18.1 (10.1–32.4) 18.9 (11.0–32.5)	Conditioned for sex, age, center, and adjusted for education and alcohol intake
Pacella-Norman <i>et al.</i> (2002) South Africa 1995-1999	Laryngeal cancer	Males Non-smokers Ex-smokers Current smokers; all 1-14 g/day 15+ g/day	1.0 17.1 (3.6-82.0) 13.8 (3.0-63.9) 10.2 (2.1-49.3) 23.6 (4.6-121.2)	OR adjusted for age, place of birth, education, work category, heating fuel, snuff use and alcohol consumption
Gallus <i>et al.</i> (2003b) Italy and Switzerland 1986–2000	Laryngeal cancer (ICD-9: 161)	Non smoker Former smoker Current smoker <i>Frequency (cigarettes/day)</i> <15 15-24 ≥25	1.0 4.4. (1.2–16.1) 46.0 (16.1–131.2) 23.7 (7.4–76.2) 135.5 (33.4–548.8) 435.7 (38.2–4964.4)	Conditioned for age, year of interview, study center, education, BMI, nonalcohol energy intake, and alcohol consumption

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Hashibe <i>et al.</i> (2007c) INHANCE consortium Europe, North America, South/Central America, International 1984-2006	Larynx: C32.0-C32.3, C32.8- C32.9	Never drinkers Cigarette smoking Never Ever <i>Frequency, cigarettes/day</i> Never smokers 1-10 11-20 21-30 31-40 >40 <i>Duration, y</i> Never smokers 1-10 11-20 21-30 31-40 >40	1.0 6.84 (4.25-11.01) 1.0 5.72 (3.41-9.60) 8.36 (5.18-13.51) 14.38 (8.47-24.43) 18.38 (7.14-47.31) 11.02 (4.92-24.72) 1.0 4.33 (1.13-16.62) 3.48 (1.61-7.50) 5.75 (2.94-11.23) 9.30 (5.40-16.02) 16.32 (9.58-27.79)	Random-effects model used. Study-specific odds ratios were adjusted for age, sex, race/ethnicity, education level, study center, years of cigar smoking, and years of pipe smoking
Bosetti <i>et al.</i> (2008) Italy 1984-2000	Laryngeal cancer	Never smokers Current smokers	0.09 (0.06-0.14) 1.0	Estimated from unconditional logistic regression with adjustment for age, study center, education, and alcohol drinking
Ramroth <i>et al.</i> (2004) Germany 1998-2000	Laryngeal cancer	<i>Pack-years</i> 0 >0-10 >10-20 >20-40 >40-80 >80	1.0 4.1 (1.6-10.7) 10.2 (4.1-24.9) 21.6 (9.8-47.4) 28.3 (12.9-62.2) 59.8 (21.3-167.3)	Adjusted by age, sex, alcohol intake and education

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Hashibe <i>et al.</i> (2007b) Hungary, Poland, Romania, Russia, Slovakia 2000–2002	Squamous cell carcinoma ICD-10 32.0 glottis 32.1 supraglottis 32.2 subglottis 32.8 overlapping 32.9 unspecified	Non smoker	0.19 (0.10-0.40)	Adjusted by age, sex, alcohol intake (years and grams of ethanol per week), education, BMI, fruit and vegetable intake, center
		Former smoker	1.00	
		Current smoker	2.88 (1.95-4.24)	
		<i>Frequency (cigarettes/day)</i>		
		Non smoker	0.19 (0.09-0.43)	
		1-9	1.00	
		10-19	1.87 (1.08-3.24)	
		20-29	2.65 (1.49-4.71)	
		≥30	5.61 (2.78–11.30)	
		<i>Duration (years)</i>		
		Non smoker	0.45 (0.13-1.58)	
		1-9	1.00	
		10-19	0.79 (0.20-3.15)	
		20-29	3.16 (1.10-9.91)	
		30-39	5.18 (1.72-15.67)	
		40-49	7.62 (2.49-23.34)	
		≥50	8.96 (2.79–28.81)	
		<i>Pack-years (years)</i>		
		Non smoker	0.36 (0.15-0.90)	
		1-9	1.00	
		10-19	2.03 (0.92-4.43)	
		20-29	2.99 (1.44-6.13)	
		30-39	5.58 (2.70-11.54)	
		≥40	7.78 (3.80-15.95)	
Applebaum <i>et al.</i> (2007) USA 1999-2003	Laryngeal	<i>Smoking, pack-years</i>		Models also controlled for sex, age, race, and education
		None	1.0	
		>0 to <20	3.7 (1.3-10.6)	
		20 to <45	6.5 (2.3-18.5)	
		≥45	19.9 (7.2-54.9)	

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Sapkota <i>et al.</i> (2007) India 2001-2004	Larynx C32.0, C32.1, C32.2- C32.9	Glottis		Adjusted for center, age, sex, SES, alcohol consumption, tobacco snuffling and tobacco chewing
		<i>Ever smoke</i>		
		No	1.0	
		Yes	5.35 (3.40-8.42)	
		<i>Frequency of cigarette smoking</i>		
		0	1.0	
		1-10 per day	1.33 (0.27-6.65)	
		>10-20 per day	4.28 (0.45-40.72)	
		>20 per day	6.55 (0.46-92.57)	
		<i>Duration of cigarette smoking</i>		
		0 years	1.0	
		1-15 years	3.35 (1.36-8.23)	
		>15-30 years	3.25 (1.36-7.79)	
		>30 years	5.71 (2.55-12.81)	
		<i>Frequency of Bidi smoking</i>		
		0	1.0	
		1-10 per day	2.01 (0.96-4.20)	
		>10-20 per day	5.31 (2.42-11.63)	
		>20 per day	14.59 (7.47-28.50)	
		<i>Duration of Bidi smoking</i>		
		0 years	1.0	
		1-15 years	3.37 (1.15-9.90)	
		>15-30 years	3.96 (1.91-8.19)	
		>30 years	7.76 (4.16-14.47)	
		Larynx_other		
		<i>Ever smoke</i>		
		No	1.0	
		Yes	8.28 (5.02-13.67)	
		<i>Frequency of cigarette smoking</i>		
		0	1.0	
		1-10 per day	2.57 (1.02-6.32)	
		>10-20 per day	10.95 (3.94-30.40)	
		>20 per day	7.05 (1.12-44.46)	
		<i>Duration of cigarette smoking</i>		
		0 years	1.0	
		1-15 years	1.50 (0.32-7.06)	
		>15-30 years	4.51 (1.61-12.61)	
		>30 years	6.64 (2.65-16.64)	

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Reference, Country and years of study	Cancer subsite	Smoking categories	Relative risk (95% CI)	Comments
Sapkota <i>et al.</i> (2007) (contd)	Larynx C32.0, C32.1, C32.2- C32.9	<i>Frequency of Bidi smoking</i>		Adjusted for center, age, sex, SES, alcohol consumption, tobacco snuffling and tobacco chewing
		0	1.0	
		1-10 per day	2.82 (1.40-5.67)	
		>10-20 per day	11.94 (5.74-24.84)	
		>20 per day	24.71 (12.56-48.61)	
		<i>Duration of Bidi smoking</i>		
		0 years	1.0	
		1-15 years	1.54 (0.32-7.53)	
		>15-30 years	7.16 (3.60-14.23)	
		>30 years	12.99 (7.14-23.61)	
		Supraglottis		
		<i>Ever smoke</i>		
		No	1.0	
		Yes	6.69 (3.50-12.77)	
		<i>Frequency of cigarette smoking</i>		
		0	1.0	
		1-10 per day	1.33 (0.27-6.65)	
		>10-20 per day	4.28 (0.45-40.72)	
		>20 per day	6.55 (0.46-92.57)	
		<i>Duration of cigarette smoking</i>		
		0 years	1.0	
		1-15 years	3.77 (0.73-19.54)	
		>15-30 years	2.16 (0.39-11.85)	
		>30 years		
		<i>Frequency of Bidi smoking</i>		
		0	1.0	
		1-10 per day	3.07 (1.29-7.33)	
		>10-20 per day	7.25 (2.77-18.94)	
		>20 per day	20.31 (9.10-45.31)	
		<i>Duration of Bidi smoking</i>		
		0 years	1.0	
		1-15 years	5.09 (1.43-18.16)	
		>15-30 years	6.04 (2.54-14.35)	
		>30 years	11.04 (5.10-23.91)	