

**Table 2.3. Cohort studies of betel quid chewing and cancer of the oral cavity published after IARC (2004)**

Reference, location, name of study	Cohort description	Exposure assessment	Organ site (ICD code)	Exposure categories	No. of cases	Relative risk (95% CI)	Adjustment for potential confounders	Comments
Yang <i>et al.</i> (2005a), Mutan, Taiwan	Cohort of 194 randomly selected participants who did not have any lesion in their oral cavity (79 men, 115 women) among whom 121 were areca/betel quid chewer (41 men, 80 women); incidence follow-up 1998–2003; outcome, oral cavity squamous cell carcinoma	Interviewer-administered questionnaire	Oral cavity	All population	1	<b>Incidence (per 10<sup>5</sup>)</b> 89.6 (-214.6-393.8)	Age	Types of betel quid: -unripe areca fruit + leaf -stem quid (slaked lime into unripe areca fruit) no mention of betel inflorescence
				Men	0	0.0		
				Women	1	213.7 (-511.7-939.1)		
				Betel quid chewers	1	146.2 (-350.1-642.5)		
				Men	0	0.0		
				Women	1	252.5 (-604.8-1109.8)		
Wen <i>et al.</i> (2005a)	National Health Interview Survey in 2001 (26 685 individuals of the non-institutionalised resident population) and a community based cohort of 25 246 men from 19 townships and precincts in Taiwan	Survey and Interviewer-administered questionnaire	Oral cavity (140–149)	Non-smoking non-betel quid chewers	10	1.0 (ref)	Age, alcohol consumption, education	
				Smoking + betel quid chewing	16	5.9 (2.6-13.5)		

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Jayalekshmi <i>et al.</i> (2009), Karunagappally, Kerala, India	Cohort of 78 140 women from Karunagappally, 93% of the residents, aged 30–84 years enrolled 1990–1997. Follow-up until the end of 2005, 92 oral cancer cases were identified by the Karunagappally Cancer Registry.	Interviewer-administered questionnaire	Oral cavity	Tobacco chewing			Age, family income, tobacco chewing	Tobacco chewing was almost always associated with chewing betel quid in the study area,
				Never	25	<b>1.0 (ref)</b>		
				Former	14	9.2 (4.6 –18.1)		
				Current	53	5.5 (3.3 –9.0)		
				P for trend		<0.001		
				Duration (years)				
				Never	25	1.0 (ref)		
				1 –9	9	3.1 (1.5 –6.8)		
				10 – 19	17	8.9 (4.8 –16.8)		
				20 – 29	18	7.8 (4.2 –14.5)		
				30 – 39	14	7.1 (3.6 –14.1)		
				40+	7	3.2 (1.3 –7.8)		
P for trend		<0.001						
			Tongue (ICD9: 141)	Tobacco chewing				
				Never	13	1.0 (ref)		
				Former	5	6.7 (2.3 – 19.4)		
				Current	20	3.9 (1.9 – 8.0)		
				P for trend		<0.001		
			Gum and mouth (ICD9: 143 – 145)	Tobacco chewing				
				Never	9	1.0 (ref)		
				Former	9	16.7 (6.3 – 44.0)		
				Current	32	10.0 (4.6 – 21.8)		
				P for trend				

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Yen <i>et al.</i> (2008b) Taichung, Taiwan	8,356 men admitted to Taichung Veterans General Hospital, aged 18 years or more; recruitment 2005–2007	Interviewer-administered questionnaire	Oral cavity	None	5955	1	Age	Participants were asked about tobacco and alcohol use and betel chewing over the last 6 months
				Smoking only	848	4.65 (2.74-7.89)		
				Alcohol consumption only	434	0.95 (0.29-3.11)		
				Betel quid chewing only	41	10.97 (3.22-37.34)		
				Smoking + alcohol	440	9.03 (5.36-15.22)		
				Smoking + betel quid	113	21.79 (11.08-42.85)		
				Alcohol + betel quid	36	16.08 (5.34-48.39)		
				Smoking+alcohol+betel quid	404	39.66 (26.04-60.38)		