

**Table 2.2. Case-control studies of Chinese-style salted fish and cancer of the stomach and oesophagus**

Reference, study location and period	Characteristics of cases	Characteristics of controls	Exposure categories	Odds ratios (95% CI)	Adjustment for potential confounders	Comments
<b>Stomach</b>						
You <i>et al</i> (1988) Shandong province, China	564 cases of 685 identified from hospitals in Linqu and Yidu County. 50% histologically confirmed.	1,131 controls randomly selected from the Linqu population matched on age and sex (only one refused interview).	<b>Salted fish</b> <i>Adult consumption</i> ≤0.5 kg/year ≤1kg /year >1 kg/year	1.0 1.0 (0.8–1.4) 1.4 (0.8–1.5)	Sex, age and family income.	Interview concentrated on dietary habits several years before. The general amount of fish consumed in Linqu is small. Risks from a logistic regression with additional nutritional variables, stomach ulcer and gastritis were “somewhat enhanced”.
Ye <i>et al</i> (1998) Fujian Province, China	272 cases. 233 men and 39 women, mean age 58.7 years.	544 randomly selected controls matched by sex, nationality and age, residing in the same village as index case.	<i>Salted fermented sea food</i> <1.5kg/year ≥1.5kg/year	1.0 1.6 (1.2–2.0)	-	Emphasis on dietary habits 20 years before interview. No multivariate risk estimates, but a significant 19.7% attributable risk of salted fish in a conditional logistic analysis.
Takezaki <i>et al</i> (2001a) Jiangsu Province, China	187 cases of stomach cancer from Pizhou City Municipal Hospital 1995-2000. Mean age 62.5 years for men and 62.6 women.	138 healthy controls selected from an earlier study and 195 controls from the general population recruited at the same time as the cases matched on sex, age and ethnicity. Mean age 62.0 years for men and 60.9 women.	<b>Salted fish</b> <i>Adult consumption</i> Stomach cancer <1/month 1-3/month ≥1/week p for trend	1.0 1.7 (1.1–2.8) 3.4 (1.9–6.1) <0.001	Age, sex, smoking, alcohol consumption	Dietary habits ascertained at the time of the interview and 10 years earlier. Unclear which was used in the analysis. Response rates for cases and controls NA. Cases of oesophageal cancer ascertained at the same time (see below) Same controls used for both cancer sites.
Cai <i>et al</i> (2003) Fujian Province, China	191 cardia and 190 non-cardia stomach cancers from 6 hospitals in Fuzhou. 156 men (mean age 61.2 years) and 35 women (mean age 57.3 years) in the cardia cancer group.	222 patients from the orthopaedic departments without cancers or gastric diseases, frequency-matched by age and sex to the cardia cancers, and used also as controls for the non-cardia cases.	<b>Salted fish</b> <i>Cardia cancer</i> <1/monthly <3/weekly ≥3/weekly p for trend <i>Non-cardia cancer</i> <1/monthly <3/weekly ≥3 /weekly p for trend	1.0 1.0 (0.6–1.7) 5.5 (1.4–19.5) 0.11 1.0 1.1 (0.6–1.7) 5.7 (1.6–20.5) 0.02	Age, sex, smoking, alcohol consumption, family cancer history in first-degree relatives	Emphasis on dietary habits 10 years before interview. 11 and 15 cardia and non-cardia cases and only 3 controls were in the most frequently exposed group.

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Goh <i>et al</i> (2007) Kuala Lumpur, Malaysia	87 cases from the University Hospital, Kuala Lumpur. 42 men and 45 women. Mean age 61.4 years. 75.9% Chinese.	174 controls from the general medical clinic without gastrointestinal complaints. Matched on age. 86 men and 88 women. Mean age 58.9 years. 33.3% Chinese.	<b>Salted fish and vegetables</b> Low/None Heavy	1.0 5.2 (1.4-20.0)	Race, H.pylori status, education, smoking and intake of fresh fruits and vegetables	Interview covered consumption in the previous 6 months. Uneven distribution of Chinese among cases and controls. Salted fish and salted vegetables grouped together. Categories were not specified.
<b>Oesophagus</b>						
Cheng <i>et al</i> (1992) Hong Kong Special Administrative Region	400 cases from 4 hospitals in Hong Kong. Response rate 97%. 345 men and 55 women. 85.3% squamous cell carcinoma and 11.4% adenocarcinoma.	For each case, 2 controls without tobacco- or alcohol-related malignancies were selected from the same surgical departments and 2 controls from the same general practice from which cases referred, both types matched on age and sex; 1598 in total, 1378 men and 220 women. Response rate 95%.	<b>Salted fish</b> “Current” consumption < once/year < once/month 1–3 times/month 1–3 times/week 4–6 times/week Daily or more p for trend	1.0 1.0 (0.6–1.8) 1.2 (0.7–1.9) 2.0 (1.2–3.3) 3.2 (1.6–6.3) 4.7 (2.1–10.6) <0.001	Adjusted for age, education and birthplace	“Current” consumption was before the onset of illness (cases) or recent (controls). The effect of salted fish was much weakened when adjusted for alcohol and other ‘important’ variables including tobacco and consumption of pickled vegetables. Consumption of salted fish when subjects in their 20s, more strongly associated with cancer risk, although only borderline significant after adjustment (data not shown)
Takezaki <i>et al</i> (2001a) Jiangsu Province, China	199 cases of oesophagus cancer from Pizhou City Municipal Hospital 1995-2000. Mean age 59.9 years for men and 61.9 for women.	138 healthy controls selected from an earlier study and 195 controls recruited at the same time from the general population matched on sex, age and ethnicity. Mean age 62.0 years for men and 60.9 women.	<b>Salted fish</b> <i>Adult consumption</i> <1/month 1–3/month ≥1/week p for trend	1.0 1.2 (0.7–1.9) 1.8 (1.0–3.3) 0.07	Age, sex, smoking, alcohol consumption	Dietary habits ascertained at the time of the interview and 10 years earlier. Unclear which was used in the analysis. Response rates for cases and controls NA. Cases of stomach cancer ascertained at the same time (see above) Same controls used for both cancer sites.

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Li <i>et al.</i> (2001) Chaoshan region, China	1248 hospital cases from Chaoshan region during 1997-2000; 936 men and 312 women. No mean age reported.	1248 hospital-based controls matched by sex and age. No mean age reported.	<b>Salted fish</b> <i>Adult consumption</i> Male No Yes Female No Yes <i>Frequency of salted fish</i> < once/week 2-3 times/week >3 times/week Daily P for trend	   1.0 1.4 (0.9-2.1)  1.0 2.2 (1.2-4.2)  1.0 1.3 (0.9-1.8) 1.3 (0.9-1.9) 0.4 (0.3-0.7) 0.07	Income, residence, occupation, smoking status, drinking habit, and tea drinking.	

Exposure assessment by interviewer-administered questionnaires