

Objectives Several epidemiologic studies indicate an increased risk of lung cancer among cooks but it is not known whether this is caused by cigarette smoking or by occupational exposure to carcinogens. Emissions from high-temperature frying have been classified by the IARC as probably carcinogenic to humans.

Methods We used data from the SYNERGY project with pooled information on lifetime work histories and tobacco smoking from 13 176 lung cancer cases and 16 129 controls from 11 case-control studies in Europe and Canada. There were 704 persons (405 men, 299 women) who had ever worked as a cook or kitchen worker (based on ISCO-68), among them 340 cases and 364 controls. ORs and 95% CIs were estimated by unconditional logistic regression, adjusted for study, age, sex, smoking, and ever employment in an occupation with established lung cancer risk.

Results Occupation as a cook or kitchen worker was associated with an increased lung cancer risk before (OR 1.20, 95% CI 1.03 to 1.40) but not after (OR 1.01, 95% CI 0.86 to 1.20) controlling for smoking habits. There was no significant exposure-response relationship in terms of work duration, and no significant heterogeneity in lung cancer risk among cooks across studies. It was not possible to separate cooks from other kitchen workers.

Conclusions Working as a cook or kitchen worker was not associated with an increased risk of lung cancer. However, the possible risk by cooking fumes cannot be ruled out. Misclassification of exposure may have biased our results towards the null.

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