



**Table 2.29. Cohort studies of consumption of alcoholic beverages and cancer of the lung in the general population**

| Reference, location, name of study                                | Cohort description  | Exposure assessment             | Exposure categories              | No. of cases/deaths | Relative risk (95% CI) | Adjustment factors | Comments  |
|---|---|---------------------------------|----------------------------------|---------------------|------------------------|--------------------|---|
| Chao <i>et al.</i> (2008), USA, the California Men's Health Study | 84 170 men male aged 45–69 who are members of Kaiser Permanente California health plans | Self-administered questionnaire | <b>Alcohol intake (drink/wk)</b> |                     |                        |                    | Age, ethnicity, education, household income, BMI, smoking status, cigarettes smoked per day, smoking duration, and history of COPD/emphysema . The consumption of different types of alcoholic beverages was mutually adjusted. |
|   |   |                                 | <i>Beer</i>                      |                     |                        |                    |   |
|   |   |                                 | Nondrinkers                      | 94                  | 1.00                   |                    |   |
|   |   |                                 | < 1 drink/wk                     | 64                  | 1.48 (1.00–2.19)       |                    |   |
|   |   |                                 | ≥ 1 drink/wk,                    | 34                  | 1.04 (0.65–1.65)       |                    |   |
|   |   |                                 | < 1 drink/d                      |                     |                        |                    |   |
|   |   |                                 | ≥ 1 drink/d                      | 18                  | 0.78 (0.45–1.35)       |                    |   |
|   |   |                                 |                                  |                     |                        | p for trend = 0.42 |   |
|   |   |                                 | <i>Red Wine</i>                  |                     |                        |                    |   |
|   |   |                                 | Nondrinkers                      | 127                 | 1.00                   |                    |   |
|   |   |                                 | < 1 drink/wk                     | 55                  | 1.15 (0.73–1.81)       |                    |   |
|   |   |                                 | ≥ 1 drink/wk,                    | 21                  | 0.65 (0.37–1.15)       |                    |   |
|   |   |                                 | < 1 drink/d                      |                     |                        |                    |   |
|   |   |                                 | ≥ 1 drink/d                      | 7                   | 0.55 (0.23–1.29)       |                    |   |
|   |   |                                 | p for trend = 0.06               |                     |                        |                    |   |
| <i>White Wine</i>   |   |                                 |                                  |                     |                        |                    |   |
| Nondrinkers   | 137   | 1.00                            |                                  |                     |                        |                    |   |
| < 1 drink/wk  | 49  | 0.86 (0.54–1.37)                |                                  |                     |                        |                    |   |
| ≥ 1 drink/wk,   | 20  | 1.09 (0.62–1.92)                |                                  |                     |                        |                    |   |
| < 1 drink/d   |   |                                 |                                  |                     |                        |                    |   |
| ≥ 1 drink/d   | 4   | 0.87 (0.31–2.40)                |                                  |                     |                        |                    |   |
|   |   |                                 | p for trend = 0.71               |                     |                        |                    |   |
| <i>Liquor</i>   |   |                                 |                                  |                     |                        |                    |   |
| Nondrinkers   | 123   | 1.00                            |                                  |                     |                        |                    |   |
| < 1 drink/wk  | 43  | 0.92 (0.60–1.42)                |                                  |                     |                        |                    |   |
| ≥ 1 drink/wk,   | 26  | 1.05 (0.64–1.71)                |                                  |                     |                        |                    |   |
| < 1 drink/d   |   |                                 |                                  |                     |                        |                    |   |
| ≥ 1 drink/d   | 18  | 0.93 (0.54–1.58)                |                                  |                     |                        |                    |   |
|   |   |                                 | p for trend = 0.75               |                     |                        |                    |   |

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| Reference, location, name of study  | Cohort description  | Exposure assessment             | Exposure categories               | No. of cases/deaths | Relative risk (95% CI) | Adjustment factors | Comments   |  |
|---|---|---------------------------------|-----------------------------------|---------------------|------------------------|--------------------|--|--|
| Shimazu <i>et al.</i> (2008)<br>Japan, the Japan Public Health Center-based Prospective Study | 46 347 Japanese men aged 40–69 years with no history of cancer                            | Self-administered questionnaire | <b>Ethanol intake (g/week)</b>    |                     |                        |                    | Age, study area, smoking status, passive smoking at the workplace, family history of lung cancer   |  |
|   |   |                                 | Never drinkers                    | 211                 | 1.47 (1.04–2.09)       |                    |  |  |
|   |   |                                 | Occasional drinkers               | 38                  | 1.00                   |                    |  |  |
|   |   |                                 | 1–149 g/wk                        | 105                 | 1.10 (0.76–1.61)       |                    |  |  |
|   |   |                                 | 150–299 g/wk                      | 117                 | 1.07 (0.74–1.55)       |                    |  |  |
|   |   |                                 | 300–449 g/wk                      | 99                  | 1.34 (0.92–1.95)       |                    |  |  |
| ≥ 450 g/wk  | 81  | 1.31 (0.89–1.94)                | p for trend = 0.07                |                     |                        |                    |  |  |
| Allen <i>et al.</i> (2009)<br>UK, the Million Women Study                                     | 1 280 296 middle-aged women, participants in breast screening programme in United Kingdom | Self-administered questionnaire | <b>Alcohol intake (drinks/wk)</b> |                     |                        |                    | Age, region of residence, socioeconomic status, BMI, smoking, physical activity, use of oral contraceptives, hormone replacement therapy | Nondrinkers included never and former drinkers |
|   |   |                                 | Nondrinkers                       | 1 735               | 1.17 (1.12–1.23)       |                    |  |  |
|   |   |                                 | < 2 drinks/wk                     | 1 210               | 1.00 (0.94–1.06)       |                    |  |  |
|   |   |                                 | 3–6 drinks/wk                     | 886                 | 0.91 (0.85–0.97)       |                    |  |  |
|   |   |                                 | 7–14 drinks/wk                    | 1 040               | 1.06 (1.00–1.13)       |                    |  |  |
|   |   |                                 | ≥ 15 drinks/wk                    | 332                 | 1.01 (0.90–1.12)       | p for trend = 0.20 |  |  |

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|---|--|---------------------------------|---|---|---|--|---|
| Thun <i>et al.</i> (2009)<br>USA, Cancer Prevention Study II (CPS-II) | 223 216 participants from the ACS Cancer Prevention Study (CPS II); participants followed up until death from lung cancer occurred | Self-administered questionnaire | <b>Ethanol intake (g/day)</b><br><i>Men</i><br>Non drinker<br>< 1 drink/d<br>1 drink/d<br>2–3 drinks/d<br>4+ drinks/d<br><br><i>Women</i><br>Non drinker<br>< 1 drink/d<br>1 drink/d<br>2–3 drinks/d<br>4+ drinks/d | <i>Deaths</i><br>151<br>126<br>31<br>72<br>26<br><br>285<br>235<br>45<br>72<br>15 | 1.00<br>0.99 (0.78–1.26)<br>1.04 (0.71–1.53)<br>0.98 (0.75–1.31)<br>0.85 (0.55–1.27)<br><i>p</i> -trend = 0.60<br><br>1.00<br>1.14 (0.95–1.35)<br>1.04 (0.76–1.43)<br>1.00 (0.77–1.30)<br>0.69 (0.41–1.16)<br><i>p</i> -trend = 0.058 | Adjusted for education, occupation, race   | Data presented for non-smokers. Overlap with Korte <i>et al.</i> (2002)   |
| Toriola <i>et al.</i> (2009)<br>Finland, the Findrink Study           | 2 267 middle aged men from Finland without a history of lung cancer  | Self-administered questionnaire | <b>Alcohol consumption</b><br>Non-binge drinkers<br>Binge drinkers  | 38<br>27  | 1.00<br>1.89 (1.10–3.20)<br><i>p</i> value = 0.02   | Age, examination year, family history of cancer, smoking, SES, leisure time physical activity, BMI | Additional analyses conducted according to the number of cigarettes smoked daily and the duration of smoking in years among binge drinkers only. Number of lung cancer cases among non-smokers was low (12 cases) |

CI, confidence interval;