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### ALCOHOL CONSUMPTION AND RISK OF STROKE AND CORONARY HEART DISEASE IN EASTERN ASIAN MEN: A META-ANALYSIS OF PROSPECTIVE COHORT STUDIES

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**Objective** To assess the dose-response relationship between alcohol consumption and risk of stroke, coronary heart disease (CHD) morbidity, mortality and all-cause mortality among Eastern Asian men.

**Methods** Potential prospective cohort studies were retrieved by searching Pubmed (1966–2000), OVID (1980–2009), Embase (1980–2009) and ISI Web of knowledge (1986–2009) using Medical Subject Headings alcohol drinking, ethanol, stroke, cerebrovascular disease, coronary heart (or artery) disease, myocardial infarction, mortality, etc., and Koreans, Japanese or Chinese. From the relevant retrieved reports, 21 prospective cohort studies met the criteria and were included in the study. Information on study design, participant characteristics, level of alcohol consumption, CHD outcome, control for potential confounding factors and risk estimates was abstracted using a standardised protocol. For each study, relative risks (RR) and 95% CI were extracted and pooled with either a fixed effect model or random effect model according to the result of the test of heterogeneity.

**Results** The study focused on male subjects, ranging from 1 322 to 108 461 people among the 21 cohort studies. Compared with non-drinkers, the RRs on ischemic stroke for those who drank alcohol  $\leq 20$ , 21–40, 41–60,  $> 60$  g/d, were 0.85 (0.78–0.93,  $p=0.0002$ ), 0.94 (0.79–1.11,  $p=0.46$ ), 1.08 (0.86–1.37,  $p=0.50$ ), and 1.24 (0.96–1.59,  $p=0.10$ ), respectively. Similarly, the RRs on haemorrhagic stroke were 0.92 (0.75–1.12,  $p=0.46$ ), 1.11 (0.96–1.28,  $p=0.17$ ), 1.20 (0.92–1.56,  $p=0.18$ ), 1.74 (1.32–2.28,  $p<0.0001$ ); the RRs on CHD morbidity were 0.65 (0.34–1.23;  $p=0.18$ ), 0.48 (0.26–0.87;  $p=0.02$ ), 0.46 (0.32–0.67;  $p<0.01$ ) and 0.48 (0.29–0.78;  $p<0.01$ ), respectively. RRs on CHD mortality were 0.98 (0.73–1.31;  $p=0.87$ ), 0.68 (0.58–0.79;  $p<0.01$ ), 0.64 (0.43–0.96;  $p=0.03$ ), 0.75 (0.54–1.03;  $p=0.08$ ); and on all-cause mortality, were 0.83 (0.75–0.91,  $p=0.0001$ ), 0.93 (0.87–0.99,  $p=0.03$ ), 1.01 (0.95–1.07,  $p=0.86$ ), 1.32 (1.29–1.36,  $p<0.01$ ).

**Conclusions** In Eastern Asian men, light alcohol consumption ( $\leq 20$  g/d) was associated with decreased risk of ischemic stroke; whereas, heavy alcohol intake was associated with increased risk of stroke, particularly haemorrhagic stroke and all-cause mortality; and moderate alcohol consumption (21–60 g/d) was associated with decreased risk of CHD morbidity and mortality.