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“Does drinking pattern modify the effect of alcohol on the risk of coronary heart disease? Evidence from a meta-analysis.”

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OBJECTIVE: To evaluate the strength of the evidence provided by epidemiological literature investigating drinking pattern as effect modifier of alcohol intake on the risk of coronary heart disease (CHD). **DESIGN:** Meta-analysis of observational studies. **DATA SOURCES:** Medline, citation tracking, from 1966 to 2006. **Review methods:** Original studies investigating the amount of alcohol intake, combined with the frequency of alcohol consumption and/or pattern of alcohol drinking affecting the risk of CHD were extracted. Among them, cohort and case-control studies reporting sufficient data to perform statistical analyses and using people who abstained from alcohol as the reference were included. **RESULTS:** Six (4 cohort and 2 case-control) out of 118 studies reviewed met the inclusion criteria. Compared with those who abstained from alcohol, regular heavy drinkers and heavy irregular or binge drinkers showed significantly different pooled relative risks of 0.75 (95% confidence interval 0.64 to 0.89) and 1.10 (1.03 to 1.17) respectively. The dose-response relation between the amount of alcohol intake and CHD risk was significantly different in regular and irregular drinkers. A J-shaped curve, with nadir around 28 grams of alcohol per week, and last protective dose of 131 grams per week, was obtained including drinkers who consumed alcohol for 2 days a week or less. Conversely, in people who consumed alcohol for more than 2 days a week a significant protective effect was seen even when drinking high amounts of alcohol. **CONCLUSION:** This meta-analysis suggests that binge and heavy irregular drinking modify the favourable effect of alcohol intake on the CHD risk. However, this conclusion should be taken with caution because of the small number of studies considered.