Regular alcohol intake decreased risk of coronary heart disease events but not total mortality in men

Wannamethee SG, Shaper AG. *Type of alcoholic drink and risk of major coronary heart disease events and all-cause mortality. Am J Public Health* 1999 May;89:685-90.

Questions

Is alcohol intake associated with risk of major coronary heart disease (CHD) events or mortality in men? Does the type of alcohol (beer, spirits, or wine) influence these associations?

Design

Cohort study of men in the British Regional Heart Study with mean follow up of 16.8 years.

Setting

24 towns in England, Wales, and Scotland.

Participants

7272 men (mean age 50 y) were selected from registries of group general practices. Exclusion criteria were physical or psychological inability to participate, CHD, stroke, or incomplete questionnaire information on alcohol intake.

Assessment of risk factors

Men completed a questionnaire to assess their alcohol intake. For analysis, men were divided into the following quintiles based on their alcohol intake: non-drinkers, occasional (<1 unit/wk), light (1-15 units/wk), moderate (16-42 units/wk), and heavy (>6 units/d) (1 unit equals half a pint of beer, a single measure of spirits, or a glass of wine).

Main outcome measures

Data on major CHD events and mortality were obtained from medical reports, postal questionnaires, and national registries.

Main results

During follow up, 901 major CHD events (456 non-fatal and 445 fatal) and 1308 deaths (595 cardiovascular and 713 non-cardiovascular) were reported. In multivariate analysis, light, moderate, heavy, and regular (combined light, moderate, and heavy) drinkers had lower risks of major CHD events than occasional drinkers, but did not have lower risks of total mortality (table). Subgroup analyses were done for men who

drank beer (n=4101), spirits (n=1724), and wine (n=1035). There was a lower risk of major CHD events in regular beer drinkers compared with occasional beer drinkers (adjusted RR 0.78, 95% CI 0.63 to 0.97) and in regular spirit drinkers compared with occasional spirit drinkers (adjusted RR 0.57, CI 0.39 to 0.85), but not in wine drinkers. Men who drank wine (occasional and regular drinkers combined) had a lower risk of total mortality (adjusted RR 0.80, CI 0.65 to 0.98) and cardiovascular mortality (adjusted RR 0.71, CI 0.52 to 0.98) than those who drank beer. Those who drank spirits did not have a lower risk of mortality than beer drinkers.

Conclusions

Compared with occasional intake of alcohol, regular intake in men was associated with a lower risk of major coronary heart disease events, but not total mortality. Regular beer and spirit drinkers, but not wine drinkers, had a lower risk of coronary heart disease events than occasional beer and spirit drinkers. Compared with beer drinkers, wine drinkers, but not spirit drinkers, had a lower risk of total or cardiovascular deaths.

*Risk of major coronary heart disease (CHD) events or total mortality in men**

Comparison group v occasional drinkers	Major CHD events adjusted RR† (95% CI)	Total mortality adjusted RR† (CI)
Light drinkers	0.76 (0.64 to 0.91)	0.88 (0.76 to 1.02)‡
Moderate drinkers	0.78 (0.65 to 0.94)	0.92 (0.79 to 1.08)‡
Heavy drinkers	0.75 (0.59 to 0.95)	0.89 (0.73 to 1.09)‡
Regular (light, moderate, and heavy)	0.77 (0.66 to 0.90)	0.90 (0.79 to 1.02)‡

*RR = relative risk; †Adjusted for multiple variables. ‡Not significant.

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For correspondence: Dr S Goya Wannamethee, Department of Primary Care and Population Sciences, Royal Free Hospital School of Medicine, Rowland Hill Street, London NW3 2PF, UK. Fax +44 (0)171 794 1224.

Commentary

Have you ever found yourself wondering if it would be better to order wine or beer? Or perhaps, you have not known quite how to respond when asked if regular alcohol intake protects against heart disease and death.

Most studies that have evaluated the association between alcohol consumption and mortality from CHD have shown that people who drink moderately live longer than those who drink heavily, rarely, or not at all. Authors of a review of case control and cohort studies concluded that, although the results were inconsistent, one type of drink (beer, wine, or spirits) was not more cardioprotective than others.¹

Wannamethee and Shaper found that regular beer and spirit drinkers when compared with occasional beer and spirit drinkers had a lower risk of CHD events but not death. They also found that wine

drinkers (regular and occasional drinkers combined) compared with beer drinkers had a lower risk of total or cardiovascular deaths but not CHD events. An interesting finding of this study was that wine drinkers were from higher socioeconomic backgrounds, more likely to be light drinkers, and had more favourable lifestyle patterns than beer and spirit drinkers. Although adjustment for these factors may have been responsible for the lower RR of CHD in wine drinkers than in beer drinkers, there remained a reduction in mortality.

Primary strengths of this study included the large sample drawn from 24 general practices and the long follow up period. A limitation of this study is a lack of assessment of whether alcohol intake patterns and CHD risk factors changed over the 16.8 years from when the data were initially collected.

Systematic reviews provide the opportunity to combine the results of many studies on one topic to arrive at a more accurate and possibly definitive conclusion. Rather than drawing clinical implications from this study, the best recommendation is that the existing review be updated to include these findings and findings from other studies conducted since the review was completed. The review should also address whether lifestyle characteristics differ in beer, spirit, and wine drinkers and whether these characteristics influence the results.

Diane Wehby, RN, CCRN, MSN
Director of Critical Care Services
Detroit Medical Center—Sinai-Grace Hospital
Detroit, Michigan, USA

1 Rimm EB, Klatsky A, Grobbee D, et al. *BMJ* 1996;312:731-6.