

## RISK FACTORS

## Everything in moderation—binge drinking increases CVD risk

A new analysis of data from the Prospective Epidemiological Study of Myocardial Infarction (PRIME) cohort reveals that men who drink excessive amounts of alcohol over a short period of time each week have a twofold higher risk of ischemic heart disease than those who drink lightly and regularly throughout the week. By contrast, moderate daily consumption of wine—a typical behavior in Mediterranean countries—seems to be associated with cardiovascular health.

Differences in cardiac-related mortality between European countries have been recognized for several decades. “Mortality and [heart] attack rates were two to four times higher in Belfast [Northern Ireland] than in French registers,” says Jean-Bernard Ruidavets, who is one of the authors of the new report. “Prevalence of traditional cardiovascular risk factors ... did not explain such differences.” PRIME was initiated in the early 1990s with the aim of assessing genetic, environmental, and cultural predictors of risk that might explain the differences in cardiovascular mortality between France and Northern Ireland. “Among the main environmental parameters we investigated, alcohol-drinking habits were assessed and considered as a potential behavior involved in the excess incidence of ischemic heart disease in Belfast,” explains Dr Ruidavets.

The study was conducted at one center in Belfast and three centers in France (Lille, Strasbourg, and Toulouse). A total of 9,778 men aged 50–59 years were enrolled

between 1991 and 1994 across all four centers. Alcohol consumption was assessed at the time of enrollment by interview using a questionnaire. Participants were classified as ‘never drinkers’, ‘former drinkers’, ‘regular drinkers’, and ‘binge drinkers’. Follow-up assessments were conducted annually by letter or telephone.

In Belfast, 9.4% of the 2,405 men were binge drinkers, compared with 0.5% of the 7,373 French men. On the other hand, 90.1% of those enrolled at the French centers reported being regular drinkers, compared with only 51.1% of those in Belfast. Although the mean total volume of alcohol consumed over the course of a week was very similar between Northern Ireland and France (281.7 g versus 254.6 g), the majority of this alcohol was taken at the weekend (and on Saturday in particular) in Belfast, with a more steady consumption throughout the week in France. Three quarters of the men enrolled in Belfast reported drinking beer, whereas wine was the most commonly consumed drink among the French men (91.8%).

During 10 years of follow-up, the incidence of coronary events (myocardial infarction and coronary death) in both countries was similar for never drinkers and binge drinkers. Compared with regular drinkers, the hazard ratio (HR) for binge drinking was 1.97 (95% CI 1.21–3.22) and for abstinence from drinking the HR was 2.03 (95% CI 1.41–2.94). The lowest incidence of coronary events was reported in regular drinkers of wine (adjusted HR 0.57, 95% CI 0.38–0.85).

The investigators acknowledge that, although alcohol consumption was examined at baseline, this behavior was not reassessed during follow-up and history of alcohol intake prior to the study was not assessed. Therefore, the potential effects of changes in drinking behavior could not be taken into consideration.

Ruidavets *et al.* also comment on the impact of the type of alcoholic drink consumed, which can be a surrogate for other factors. For example, although wine drinking is commonplace in France, in Belfast men who drink wine are likely to be of high socioeconomic status. These individuals tend to have better cardiovascular health than those in lower socioeconomic groups. The investigators now plan to look at the relationship between drinking patterns and specific risk factors and other causes of disease in the PRIME cohort.

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