Pattern of drinking affects the relation of alcohol intake to coronary heart disease

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A fascinating study published in the *BMJ* shows that although the French drink more than the Northern Irish each week, as they drink daily, rather than more on less occasions, the French suffered from considerably less coronary heart disease than the Northern Irish. Ruidavets and colleagues compared groups of middle aged men in France and Northern Ireland, who have very different drinking cultures and rates of heart disease.The authors found that men who "binge" drink (drink =50 g of alcohol once a week) had nearly twice the risk of myocardial infarction or death from coronary disease compared with regular drinkers over 10 years of follow-up. Similarly abstainers were at higher risk. 9,778 men aged 50-59, free of ischaemic heart disease at baseline, were recruited between 1991 and 1994. A total of 2,405 men from Belfast and 7,373 men from the French centres were included in the analyses.

The investigators related weekly alcohol consumption, incidence of binge drinking (alcohol >50 g on at least one day a week), incidence of regular drinking (at least one day a week, and alcohol coronary heart disease (chd) events over a 10 year follow-up period. overall, 60.5% of subjects from n. ireland and 90.6% of french reported drinking alcohol at least once a week. among drinkers, 12% of men in belfast drank alcohol every day compared with 75% of men in france. mean alcohol consumption was 22.1 g/ day in belfast and 32.8 g/day in france. binge drinkers comprised 9.4% and 0.5% of the belfast and france samples, respectively.

Results showed that, after multivariate adjustment, the hazard ratio for

hard CHD events compared with regular drinkers was 1.97 (95% CI 1.21 - 3.22) for binge drinkers, 2.03 (95% CI 1.41 - 2.94) for never drinkers, and 1.57 (95% CI 1.11 - 2.21) for former drinkers. The hazard ratio for hard CHD events in Belfast compared with in France was 1.76 (95% CI 1.37 to 2.67) before adjustment, and 1.09 (95% CI 0.79 to 1.50) after adjustment for alcohol patterns and wine drinking, indicating that most of the differences between the rates in the two countries were related to these two factors. Irrespective of country, only wine drinking was associated with a lower risk of hard coronary events.

The authors conclude that regular and moderate alcohol intake throughout the week, the typical pattern in middle-aged men in France, is associated with a low risk of ischemic heart disease, whereas the binge drinking pattern more prevalent in Belfast confers a higher risk.

Comments: While a strong inverse association between moderate alcohol consumption and cardiovascular disease has been demonstrated for decades, more recent research has emphasized the importance of the pattern of drinking (regular moderate versus episodic or binge drinking). Further, there continues to be debate about the potential greater effect of wine versus other beverages containing alcohol. This study shows that regular moderate drinking (especially of wine) is associated with lower risk of MI, but episodic or binge drinking increases the risk. Lifetime abstinence has a similar adverse relation to CHD as does episodic or binge drinking.

More information: Patterns of alcohol consumption and ischaemic heart disease in culturally divergent countries: the Prospective Epidemiological Study of Myocardial Infarction (PRIME). BMJ 2010;341:c6077 doi:10.1136/bmj.c6077