

# Evidence about health effects of "moderate" alcohol consumption

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## EXECUTIVE SUMMARY

**This report summarizes and examines the scientific evidence regarding the health effects of "moderate" (i.e., low-dose) alcohol consumption, and discusses the implications of this research for clinical practice, low-risk drinking guidelines, and alcohol policy development.**

**The existing evidence finding cardiovascular benefits from low-dose alcohol consumption is weak, and emerging evidence suggests that these protective effects are spurious (i.e., do not exist, or are harmful). The view that alcohol confers health benefits is therefore even less of a valid counter-argument against the adoption of effective alcohol control policies (e.g., those which reduce alcohol's availability and affordability).**

- Although alcohol consumption is a leading cause of preventable death and social problems worldwide, previous studies often find an association between low-dose consumption and a reduced risk of cardiovascular (CVD) disease. Despite shortcomings in the science, this information has been promoted extensively, used to argue against the adoption of policies to reduce excessive drinking and led some doctors to advise patients to drink for better health.
- However, there have been no "randomised" studies of low-dose alcohol consumption and any disease or death outcomes to confirm findings from non-randomised studies. Randomised studies are the gold standard used to determine the safety and effectiveness of medical drugs. There are more than 10 recent examples in which conclusions from observational studies were contradicted later by randomised studies (e.g. hormone replacement therapy for the reduction of heart disease in women).
- Laboratory studies have indicated that low-dose alcohol consumption reduces some biological markers of heart disease. However, more recent and sophisticated studies have refuted some markers as causal factors of CVD mortality (e.g., HDL cholesterol). Further, low-dose alcohol consumption is associated with physiological effects that should increase CVD mortality, such as increased blood pressure.

- There are many methodological problems with non-randomised (i.e., observational) studies. Most important among these are confounding and misclassification. Non-drinkers and moderate drinkers differ in many ways besides alcohol consumption. The majority of observational studies classify people as abstainers who have cut down or quit drinking, many of whom have health problems. This makes moderate drinkers appear to be healthier than they really are.
- The observation of apparent health benefits from moderate drinking has also been made for a number of health conditions for which there is no plausible physiological basis (e.g., liver cirrhosis, improved childhood development, cancers, hip fractures, deafness and the common cold), suggesting that protective associations with other conditions may not exist.
- A large international genetic (Mendelian) randomisation study found that having a genetic disposition that causes less drinking is associated with a significantly reduced risk of coronary disease, even among those who consume modest amounts of alcohol.
- Studies of populations that have experienced reductions in total alcohol consumption do not find any evidence of increased rates of cardiovascular disease.
- Even assuming cardiovascular benefits from moderate drinking are real, the WHO estimates are that alcohol causes far more death and disability than it prevents. Further, if real, the optimal mortality benefits apply at very low levels (maximally half a drink per day for women, and less than one drink per day for men) and increase thereafter.
- Physician advice to patients and low-risk drinking guidelines should focus on reducing consumption to safer levels among current drinkers, and should discourage drinking initiation or increased consumption on the basis of health-related considerations
- From the public health perspective, governments should adopt and strengthen effective alcohol control policies to reduce alcohol-related deaths, social problems and economic costs. The growing scientific scepticism regarding evidence about the health effects of low-dose alcohol consumption should further enhance their rationale for doing so.

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