

# Alcohol consumption in relation to cardiovascular risk and mortality

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## 5. Summary

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A consistent, significant protective effect of regular and moderate alcohol consumption in coronary heart disease and ischaemic stroke, already shown in previous epidemiological studies, has been clearly confirmed and established by the work assembled in the present thesis. The association between alcohol consumption and CHD mortality was described indeed through a J-shaped relationship, where teetotalers and heavy drinkers were at the highest risk whereas light-moderate drinkers were at the lowest risk.

Thus, if low alcohol intake is inversely related to CHD, the other side of the coin shows an increased risk for certain cancers, cirrhosis and death from accidents mainly associated with increasing alcohol consumption.

Total mortality too was significantly reduced in moderate drinkers; however, excess drinking was definitely harmful also when this hard global end-point was considered. Thus, data assembled in this thesis and previous epidemiologic data—though only derived at present from a large number of prospective observational studies — confirm the hazards of excess drinking, but also indicate the existence of potential windows of alcohol intake which may confer a net beneficial effect of drinking, in terms of survival, both in men and in women.

Regarding cardiovascular patients, if not contraindicated, regular alcohol consumers should not exceed one drink/day for women or up to two drinks/day for men as a component of a balanced cardio-protective dietary pattern, with appropriate energy intake levels. At present, according to a prudent approach, a cardiovascular patient who is teetotaler should neither be recommended, nor "prescribed" to start drinking for health gain.

In spite of a large number of experimental studies suggesting a protective role of wine-derived polyphenols on cardiovascular risk, epidemiological evidence of a similar effect of wine and beer has been now established and it seems likely that the ethanol component of different beverages is a major factor that reduces the cardiovascular risk.

The present thesis provides reasonable evidence that regular and moderate alcohol intake is significantly associated with a reduction in the incidence of cardiovascular and total mortality, in apparently healthy people and in patients at high

cardiovascular risk. However, the fact that regular moderate alcohol consumption is not easily attainable or maintainable in all parts of the world must be taken into serious consideration. There are certainly appreciable differences between Mediterranean and Northern European or Russian habits of alcohol consumption. Therefore, in some low-income populations and poor countries, even if the net effect on CVD might be beneficial, the effect of alcohol on the overall burden of disease might be detrimental because of more frequent uncontrolled alcohol-use disorders, cancer, liver cirrhosis, and injury.