

Moderate drinking associated with lower risk of heart disease but consistency matters

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Unstable drinking patterns over time may be associated with a higher risk of heart disease, whereas consistent moderate drinking within recommended health guidelines may have a cardioprotective effect,

according to a study published in the open access journal *BMC Medicine* that examined data on 35,132 individuals.

A team of researchers led by University College London and the University of Cambridge found that compared to individuals who consistently followed UK sensible [drinking](#) guidelines over a period of ten years, those who inconsistently drank in moderation, those who had stopped drinking (former drinkers) and those who reported no drinking had a higher risk of coronary heart disease (CHD), although the effect observed in non-drinkers may be confined to women.

Dr. Dara O'Neill, the corresponding author from University College London said: "This study uses long-term data to distinguish between persistent non-drinkers and former drinkers, allowing us to test the established theory that only the latter have an elevated risk of CHD. We did not find this to be the case but we did observe a sex-related difference. Amongst consistent non-drinkers, women showed higher risk of developing CHD compared to consistently moderate drinkers, but their male counterparts did not."

Overall, 1,718 (4.9%) out of the 35,132 individuals included in the six cohorts that were examined in this study developed CHD during the study period, of which 325 (0.9%) were fatal CHD events. Observed CHD incidence was highest for former drinkers, 6.1% of whom experienced a CHD event of which 1.2% were fatal, and lowest for consistently heavy drinkers, 3.8% of whom experienced a CHD event of which 0.6% were fatal. The authors caution that there is considerable doubt around the estimates of CHD risk in heavy drinkers due to an under-representation of heavy drinkers in the study sample, especially among women.

Dr. O'Neill said: "Given that heavy drinkers are known to be under sampled in population level surveys, interpretation of the absence of

effect amongst heavy drinkers in the current study should be done very cautiously, particularly in light of the known wider health impact of heavy [alcohol intake](#) levels."

The findings suggest that instability in [drinking behavior](#) over time is associated with CHD risk. This may be because unstable drinking patterns reflect wider lifestyle changes across the course of people's lives, including periods of ill-health or life stress, according to the authors. Lifestyle changes may also account for variations in risk the authors observed when they compared different age groups.

Dr. O'Neill said: "When we split the sample by age, we found that the elevated risk of incident CHD amongst inconsistently moderate drinkers was observed in participants aged over 55, but not those aged below. It may be that the older group experienced lifestyle changes, such as retirement, which are known to co-occur with increases in alcohol intake and that these could have played a role in the differing risk."

In order to examine associations between CHD and drinking behavior over time, the authors analyzed prospectively collected, longitudinal data on self-reported weekly alcohol consumption from six studies—five from the UK and one French study—which included information on alcohol intake over a period of ten years, together with information on CHD events.

Drinking behavior over time was assessed by measuring intake based on the alcohol content in reported drinks; half pints of beer or cider, small glasses of wine and a single serving of spirits were recorded as containing 8g of ethanol in the UK cohorts and 10g of ethanol in the French cohort. Moderate drinking was considered to be up to 168g/ethanol per week for men and up to 112g ethanol/week for women.

The authors note that a lack of information on alcohol intake prior to the

beginning of the 10-year assessment period could mean that the long-term abstainers identified in this study include some former drinkers. Sick [heavy drinkers](#) may also not have been captured in the study sample due to possible dropout from the investigation at an earlier stage. The observational nature of the individual studies included in this analysis does not allow for conclusions to be drawn about cause and effect.

More information: Dara O'Neill et al, Association of longitudinal alcohol consumption trajectories with coronary heart disease: a meta-analysis of six cohort studies using individual participant data, *BMC Medicine* (2018). [DOI: 10.1186/s12916-018-1123-6](https://doi.org/10.1186/s12916-018-1123-6)

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