

Patterns of drinking and disease-free living: Only a problem for alcohol abusers?



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Alcohol use has been established as a major risk factor for burden of disease in all major comparative risk assessments.^{1,2} It impacts relatively early in the life course, being the most important risk factor for mortality between the ages of 15 and 39.³ Consequently, alcohol use affects life expectancy, and not only for younger adults. For instance, a forty-year-old man or woman who regularly drinks about five drinks a day (50 grams of alcohol) loses between four to five years of life compared to those who drink less than 1.5 drinks per day (15 grams of pure alcohol).⁴

Much less is known about how alcohol use impacts on disease-free years of life. Nyberg and colleagues⁵ have based their analyses on a consortium of 12 large European cohort studies to shed some light on this relationship. Their key finding states that lifetime abstainers ('never drinkers') and moderate consumers with no binge-drinking habit had a 5-6-year advantage in disease-free life years after age 40 relative to people with a history of hospitalizations for alcohol poisoning or alcohol abuse, and 2-3 more disease-free years when compared to heavy consumers with a binge-drinking habit—where heavy consumption was defined according to the UK rules of consuming more than 112 grams of pure alcohol/week, and binge drinking as a self-report of having passed out at least once during the prior 12 months due to heavy alcohol consumption. Differences in the average level of alcohol use without fulfilling these two criteria were associated with differences of less than one disease-free life year.⁵

The above results corroborate other results with large effect sizes for studies based on routinely collected data for both exposure and outcomes, i.e., based on alcohol use variables from medical institutions or registries, and outcomes from hospital records or death certificates. For instance, Westman and colleagues found in a large population-based register study in the Nordic countries⁶ that life expectancy was 24-28 years shorter in people with alcohol use disorder compared to the general population. In France, 704,803 hospital patients (2.7% of all French hospital patients between 2008 and 2012) identified with alcohol use disorders had a threefold higher risk of death (HR = 2.98; 95% CI: 2.96-3.00) and died on average 12.2 years younger (men: 10.4 years, 95% CI: 10.3-10.5 years; women: 13.7 years, 95% CI: 13.6-13.9 years) than people without such a disorder.⁷

However, the results of Nyberg et al.⁵ also seem to indicate a contradiction with the results of the mortality studies based on self-report of alcohol use (for an overview of studies on the risk relations between self-reported levels of alcohol use and mortality, see,² Appendices; and⁸). There are two caveats: first, the cohorts in the study by Nyberg and colleagues⁵ were based on different questionnaires in different countries over a 20-year time span using different standard drink sizes, and such conditions may lead to some fuzziness and measurement uncertainty on the level of alcohol use, in addition to the usual problems of surveys measuring alcohol use.⁹ Second, the outcomes (free of disease from 6 major disease categories) are less certain than deaths, also increasing measurement error. Thus, only relatively extreme drinking patterns may have shown a significant effect, and, clearly, since almost all alcohol disease dose-response relationships show a monotonic gradient after 20 grams pure alcohol per

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day,^{8,10} this may explain the lack of difference between broadly defined levels of drinking. Thus, it remains to be seen if cohorts provided with more similar questionnaires, including the same definition of standard drinks and from the same drinking culture, and thus presumably with less measurement error, would not lead to more pronounced differences between levels of drinking.

In any case, as Nyberg and colleagues note as well, disease-free years of life are an interesting and easy way to communicate outcome, and thus more studies examining alcohol use as a risk factor for this outcome are needed.

Declaration of interests

None declared.

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