MedicalXpress

Association of quantity of alcohol and frequency of consumption with cancer mortality

October 20 2011

A paper from the National Institutes of Health in the United States has evaluated the separate and combined effects of the frequency of alcohol consumption and the average quantity of alcohol drunk per occasion and how that relates to mortality risk from individual cancers as well as all cancers. The analysis is based on repeated administrations of the National Health Interview Survey in the US, assessing more than 300,000 subjects who suffered over 8,000 deaths from cancer. The research reports on total cancer deaths and deaths from lung, colorectal, prostate, and breast cancers.

The overall message of this analysis is that light to moderate alcohol intake does not appear to increase the risk of all-site cancer (and light drinking was shown in this study to be associated with a significant decrease in risk). Similarly, light to moderate consumption was not associated with site-specific cancers of the lung, colorectum, breast, or prostate.

As quantity consumed increased from 1 drink on drinking days to 3 or more drinks on drinking days (US drinks are 14g), risk of all-site cancer mortality increased by 22% among all participants. For total alcohol consumption (frequency x quantity), the data indicate a significant reduction in the risk of all-site cancers (RR=0.87, CI 0.80-0.94). Moderate drinking consistently shows no effect in the analysis, and only heavier drinking was associated with an increase in all-site cancer risk.

For site-specific cancers, an increase in risk of lung cancer was seen for heavier drinkers, with a tendency for less cancer among light drinkers. There was no evidence of an effect of total alcohol consumption on colorectal, prostate, or breast cancer.

The authors excluded non-drinkers in a second analysis in which they used categories of usual daily quantity and of frequency of consumption in an attempt to investigate their separate effects. For all-site cancer and for lung cancer, these results again show an increase in risk only for drinkers reporting greater amounts of alcohol. The data also show an increase in cancer risk from more frequent drinking among women but not among men. For colorectal, prostate, and breast cancer, there is no clear pattern of an increase in risk from quantity of alcohol consumed. For frequency of drinking, again there is a suggestion of an increase in mortality risk with more frequent drinking, although the trends are not statistically significant.

Heavier drinking (three drinks or more per occasion) is known to be associated with a large number of adverse health effects, including certain cancers, as was shown in this study. When considering cancer, alcohol consumption should not be considered in isolation, but in conjunction with, other lifestyle behaviours (especially smoking when considering lung cancer). We agree with the authors that both quantity and frequency of consumption need to be considered when evaluating the relation of alcohol to cancer; further, beverage-specific effects need to be further evaluated.

More information: Rosalind A. Breslow RA, Chen CM, Graubard BI, Mukamal KJ. Prospective study of alcohol consumption quantity and frequency and cancer-specific mortality in the US population. Am J Epidemiol 2011; DOI: 10.1093/aje/kwr210