

ATTENTION: INFORMATION UNDER EMBARGO UNTIL FRIDAY 15 January 2014 at 22h00, (10.00 pm), PARIS TIME

Paris, 15 January, 2014

Press release

Heavy drinking in adulthood accelerates cognitive decline in men

According to the results of an epidemiological study conducted jointly by French and English researchers at Inserm and University College London, men who drink more than 36 grams of alcohol (3.5 drinks) per day may have a faster decline in memory, which is reflected by a reduction in their attention and reasoning skills.

This study is published in the January 15, 2014, online issue of *Neurology*.

This new study involved 5,054 men and 2,099 women whose regular drinking habits were assessed three times over 10 years. Alcoholic drinks consumed included wine, beer and spirits. Then, when the participants were a mean age of 56, they took their first cognitive tests. These tests were repeated twice, 5 and 10 years later.

The researchers studied their memory skills and executive function, i.e. their ability to use their attention and reasoning skills in order to achieve a goal. The memory test required the subjects to recall in one minute as many words as possible from a list of 20 words spoken to them just before. Executive function was assessed using 3 tests: a logical reasoning test made up of 65 questions, and 2 tests of verbal fluency during which the participants had to write as many words as possible beginning with "S," and as many names of animals as possible, respectively, in one minute.

Most of the research on the relationship between drinking and memory and executive function has been carried out on older people. *"Our study is based on individuals with a mean age of 56 when the first cognitive tests were conducted, which is relatively young compared with previous studies on this subject. It suggests that heavy drinking is associated with a faster decline in all cognitive areas studied,"* reports study author Séverine Sabia, PhD, of University College London in the United Kingdom.

For men, whereas the study found no difference in the decline of memory or executive function between non-drinkers, ex-drinkers, and light to moderate drinkers¹, heavy drinkers showed a more rapid decline in memory and executive function than moderate drinkers.

According to cognitive tests, this difference represented 1.5 to 6 additional years of cognitive decline. For example, a 55-year-old heavy drinker might have a decline in memory comparable to that of a 61-year-old individual.

In the present study, it was not possible to study heavy drinking by women at levels comparable to men, because there were too few women who drank in such quantity. However, a more rapid decline in executive function is suggested for women consuming

¹ i.e. those who drank less than 20 grams of alcohol, or less than two drinks per day.

more than 2 drinks.

The mechanisms involved in the association between heavy drinking and accelerated cognitive decline are not straightforward. One of the main hypotheses relates to brain and cardiovascular mechanisms that might exert effects over long periods of time. Indeed, heavy drinking is a known risk factor for vascular disease, and there are many arguments that various vascular factors contribute to cognitive decline. Moreover, heavy drinking may have both short-term and long-term deleterious effects on the brain, via neurotoxic and proinflammatory effects, and indirect effects through cerebrovascular disease and vitamin deficiency.

For the authors of this publication, *“It would be interesting if we could repeat this type of study in order to evaluate the impact of heavy drinking on cognitive decline in women in greater detail. Moreover, new measurements of cognitive function will soon be available for the same participants. These will enable us to study whether the effect of heavy drinking on cognitive decline in mid-life (40-60 years) is even more obvious when the people grow older.”*

From a public health point of view, this study agrees with previous work, and suggests that it is unlikely that moderate drinking exacerbates cognitive ageing. However, the results also show that heavy drinking in mid-life might lead to faster cognitive decline in later years.

Sources

Alcohol Consumption and Cognitive Decline in Early Old Age

Séverine Sabia, PhD1* Alexis Elbaz, MD, PhD2,3 Annie Britton, PhD1 Steven Bell, PhD1 Aline Dugravot, MSc4 Martin Shipley, MSc1 Mika Kivimaki, PhD1 Archana Singh-Manoux, PhD1, 2, 3, 4, 5

*Corresponding author & address:

1 Department of Epidemiology & Public Health, University College London, 1-19 Torrington Place, London WC1E 6BT, United Kingdom (s.sabia@ucl.ac.uk)

2 INSERM, U1018, Centre for Research in Epidemiology and Population Health, Villejuif, France

3 University Paris 11, F- 94807, Villejuif, France

4 University Versailles St-Quentin, Boulogne-Billancourt, France

5 Centre de Gériologie, Hôpital Ste Péline, AP-HP, France

Neurology 2014;82:332–339

Investigator contact

Séverine Sabia

s.sabia@ucl.ac.uk

Tel.: +33 (0)1 45 59 51 52

Press contact

presse@inserm.fr