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**THE LONG AND SHORT TERM EFFECTS OF ALCOHOL CONSUMPTION ON COGNITIVE DECLINE**

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**Background** With an increase in ageing population, cognitive decline represents a major reason of concern. Alcohol has

been shown to have a differential impact on cognitive decline according to the level of consumption, but less is known on the longitudinal effects.

**Objective** To examine the influence of alcohol consumption at age 36 and 43 years on cognitive decline between 43 and 53 years.

**Design** Birth cohort study.

**Setting** UK.

**Participants** 735 men and 778 women from the Medical Research Council (MRC) National Survey of Health and Development, followed up since their birth in March 1946.

**Main outcome measures** Decline in verbal memory and visual search speed.

**Methods** Alcohol data was obtained over 7 days using 5 days diet diary and 2 days interview recall at age 36 and 43. The confounding variables included were father's social class, childhood cognition, education, adult social class and depression.

**Statistical methods** Cognition at 53 years was regressed on cognition at 43 years, alcohol consumption, and confounders, separately for men and women.

**Results** Long-term effects: Alcohol consumption at age 36 was associated with decline in verbal memory performance in men. Light drinkers (0-3 units/day) and moderate drinkers (2-5 units/day) had 1.80 (95% CI: 0.73 to 2.88) and respectively 1.72 (0.57- 2.86) slower decline than non-drinkers, while heavy drinkers (3-8 units/day) showed a more rapid decline with 1.28 (0.11-2.45). These associations become non-significant after controlling for the confounders (in particular when controlling for education). No associations were found in women. There was non-significant association between alcohol at age 36 and decline in visual search performance. Short-term effects: Alcohol at age 43 had a stronger impact on verbal memory decline in men, which was maintained after adjusting for all the confounders. The regression coefficients for light, moderate and heavy drinkers were 1.18, 1.34, and 1.32 (0.21-2.15; 0.24-2.44; 0.25-2.40) in reference to non-drinkers, highlighting a protection for moderate drinkers. No associations were found for verbal memory decline in women. For the visual search speed test no associations were found in men. However, for women, was a significant association between alcohol behaviour at 43 and decline in visual search performance.

**Conclusion** The short-term effect of alcohol consumption on cognitive decline is stronger than the long-term effect, which was explained by educational attainment at age 26. Future policies on drinking behaviour should not only highlight the debilitating effects of different levels of drinking, but also take into account the beneficial influence of education.