

Is the freedom from cognitive impairment really at hand?

An investigation between alcohol consumption and cognitive change



Epidemiology and Public Health

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Did you know that?

- There are 17–25 million people worldwide affected by dementia, costing society billions of pounds each year.

- By 2051 it is estimated that more than 1.7 million people will be affected only in UK and the government has unveiled plans to spot and treat dementia, as part of a new imperative strategy.

- 1 in 8 people over 65 experience cognitive decline, adding severe emotional, financial and logistical strains on the individual, its family and entire society.

Studies have shown that healthy lifestyles and light alcohol consumption can benefit cognitive function in elderly people, despite that the patterns are still very contradictory.

- Cooper (2009) suggested that moderate alcohol consumption does not protect older people from cognitive decline, while Anttila(2004) showed that participants who drank no alcohol were twice as likely to have mild cognitive impairment in old age as those who drank alcohol infrequently.

Our Aim

The primary aim of this study was to examine the effect of alcohol consumption on cognitive decline in middle life

Design

- A cross-sectional Birth Cohort Study & Repeated measures
- A rich amount of health, cognitive, social and psychological function data.

Participants

- A British nationally representative sample of 5362 people, known as British 1946 Cohort or Medical Research Council - National Survey of Health and Development (MRC -NSHD)
- The 2,815 men and 2,547 women were repeatedly monitored since their birth in March 1946
- Over 22 round examinations



Methods & Materials

- The study examined the association between the report of alcohol consumption and cognitive function in middle life. This was based on data collected from interviews and diet diaries completed when the cohort members were respectively, 26, 36, 43 and 53 years



Outcomes:

Cognitive tests

- At 43 & 53 years were repeated measures of verbal memory and psychomotor function.
- Verbal memory was assessed by a 15 item word learning task in an overall score
- Speed and concentration was measured with a visual search task, wherein participants were required to cross out the letters P and W

Exposures:

Alcohol consumption

- At 36, 43 & 53 years information on alcohol consumption were collected from the 5 days diet diaries
- The measures were transformed in units equivalent of 8g of alcohol and averaged per day consumption

Confounders:

- Educational attainment by 26 years; current social class, general cognitive ability at age 8.

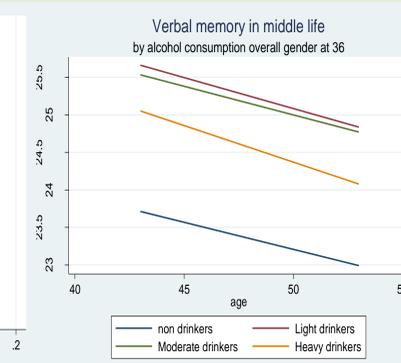
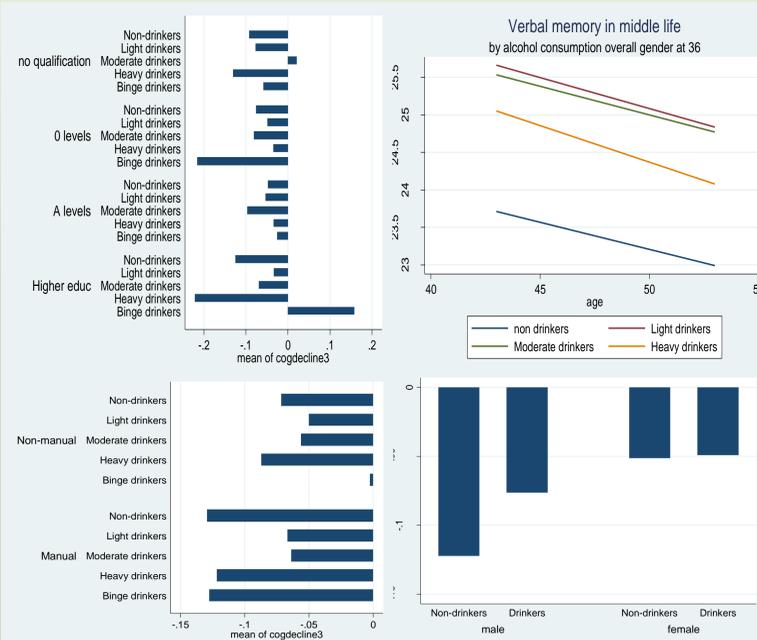
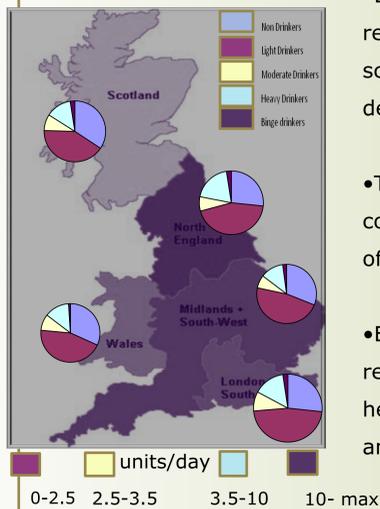
Results

- In 1946 British Cohort, there was a natural trend of cognitive decline in both memory and psychomotor function associated with age, between 43 to 53 years. This decline was similar for men and women with no significant difference between drinkers and non drinkers.

- Examinations of alcohol types beverage revealed a significant increase of cognitive scores with wine, sherry and spirits; but a decrease with beer drinking.

- The self-reports were predominantly of light consumption, with only a small proportion of binge drinking.

- Examinations by education and social class revealed some sporadic differences between heavy drinkers with non manual occupations and between levels of educations.



Conclusions

Our RESULTS suggests that alcohol consumption at age 36 was significantly associated with memory and search speed at both 43 and 53 years.

This was also significantly associated with the change in psycho-motor function. Light and moderate drinkers are less vulnerable to cognitive decline than heavy drinkers and abstainers. Moderation seems to be the valuable key to freedom from cognitive impairment!

Strengths & Limitations

NSHD data is nationally representative offering extensive longitudinal information on health, psychological, social and lifestyle behaviours throughout life. All participants are of identical age, reducing the risk of uncontrolled confounding from an age-associated decline in health and cognitive function. Limitations correspond to the self-report measures of alcohol consumption from the diet diaries, that could potentially rise the questions of inaccuracy or biased recall.

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