Reviewer's report

Title: Alcohol intake, wine consumption and the development of depression: The PREDIMED study.

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Reviewer: Erik L Mortensen

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This is a longitudinal study of a large cohort of older individuals (55-80 years old) investigating potential associations between alcohol consumption and risk of depression. Of the total eligible individuals 5505 participated in the study (1579 were excluded because they reported a history of depression, current depression or use of anti depression medication). The study sample comprised participants in a large scale intervention study, testing effects of different diets.

Exposure: Consumption of different type of alcoholic beverages was self-reported once a year with a questionnaire 2003-2010. Based on the total alcohol intake participants were divided into four groups: abstainers, < 5 g per day, >5-15 g per day and > 15 g per day. For a separate analysis of wine drinking participants were categorized according to number of drinks per week.

Outcome: Cases of depression was defined as a diagnosis of depression made by a physician and reported by the participant in any of the follow-up interviews, or a positive report of habitual use of antidepressant drugs.

Covariates: Age, sex, smoking, physical activity, total energy intake, baseline BMI, marital status, intervention group, recruiting centre, educational level and number of persons living at home.

Results: Analyses of total consumption showed reduced risk of depression in the >5 – 15 g per day category and so was consumption of 2-7 drinks of wine per week. The analysis of wine consumption tended to show stronger association with risk of depression when wine consumption was updated based on the annual follow-up. The authors tested for interaction between alcohol consumption and sex (non significant), and they additionally conducted a series of sensitivity analyses.

A number of studies of studies have shown an association between higher alcohol consumption levels and higher risk of depression, but I consider the results of the present study quite convincing. In particular, I find the results of wine drinking interesting since apparent positive health effects of wine drinking have often been explained by confounding (it is argued that wine drinkers are different from non-wine drinkers). In this context, it is important that an apparent positive effect can be demonstrated in a Southern European country with a long tradition of wine drinking, and the relatively stronger effect associated with annually updated wine consumption may be interpreted to reflect a direct effect.
of wine exposure. Residual confounding is of course still a possibility, but important social factors such as marital status, educational level, and number of persons in the home were included as covariates.

Consequently, I find the data of sufficient interest to be published.

However, the manuscript has some minor weaknesses: I would have liked more detail on the data collection, but presumably this has been presented in other papers on the intervention study. Similarly, the language could have more concise in parts of the manuscript. Finally, I did not find the figure very helpful – how many in the sample drank 50-80 g per day?

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.