Reviewer's report

Title: Mediterranean dietary pattern and depression: the PREDIMED randomized trial

Version: 1 Date: 19 April 2013

Reviewer: Felice Jacka

Reviewer's report:

1. Is the question posed by the authors new and well defined?

This is an important study, given the lack of experimental evidence for dietary modification as a preventive strategy in major depression to date.

2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work?

The authors have done a sound job in their analyses and I have confidence in their findings. They have adequately discussed the limitations of the study and the potential problems associated with the misclassification of depression and the lack of statistical power for the outcomes.

3. Are the data sound and well controlled?

The PREDIMED study is a well-designed study with excellent credentials. The recent findings regarding the impact of the two dietary interventions on CVD outcomes, reported in the NEJM, are concordant with the patterns of association described in relation to depression outcomes in this paper.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

Yes

5. Are the discussion and conclusions well balanced and adequately supported by the data?

In general, yes. However, I would not describe the relationship between levels of adherence to diet and depression outcomes as a ‘trend’. They are clearly non-significant and should be described as a negative result.

6. Do the title and abstract accurately convey what has been found?

The confidence intervals described in the abstract ((Multivariate Hazard Ratio (HR) and 95% Confidence Interval (CI))=0.78; 0.55-1.11) are slightly discordant with those described in the results section (0.78; 0.55-1.10). Please amend.

7. Is the writing acceptable?
The paper would benefit from editing by a native English speaker.

Minor Essential Revisions:

1. I would appreciate some small discussion regarding the other dietary condition (VOO) and the depression outcomes. The tables suggest that confining analyses to diabetic patients also strengthened the relationship between the VOO diet and depression outcomes, although non-significant. Importantly, the pattern of associations between the dietary conditions and the depression outcomes is similar to those reported for the primary CVD outcomes in the recent NEJM paper. This could be highlighted.

2. Our group have also shown that leptin is associated with the risk for MDD and this reference could be included:

3. The confidence intervals described in the abstract ((Multivariate Hazard Ratio (HR) and 95% Confidence Interval (CI)=0.78; 0.55-1.11) are slightly discordant with those described in the results section (0.78; 0.55-1.10). Please amend.

4. I would not describe the relationship between levels of adherence to diet and depression outcomes as a ‘trend’. They are non-significant and should be described as a negative result.

In conclusion:

Given that the study is likely to have been underpowered for the outcome, and that the control condition was also a ‘healthy’ diet condition (and that the diets of those in the control condition were described as being relatively ‘Mediterranean’ to start with), the fact that a relationship with depression incidence was detected is quite compelling. This study offers important and further support for dietary habits as modifiable risk factors for depression.

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I have no competing financial interests.

I presented in a symposium with the lead author of the study and know her as a work colleague