Reviewer's report

Title: Dietary intake of fish, omega-3, omega-6 polyunsaturated fatty acids and vitamin D and risk of psychotic-like symptoms in a cohort of 33 000 women from the general population

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Reviewer: Robert K McNamara

Reviewer's report:

This is a very interesting prospective longitudinal (10 year) study examining the role of dietary essential fatty acid and Vitamin D intake and the emergence of psychotic-like symptoms in a large cohort of Swedish women. After correcting for multiple confounding variables, it was found that there is an optimal intake level of omega-3 and omega-6 fatty acids, as well as vitamin D, required to reduce the risk of developing psychotic-like symptoms. The manuscript is well-written and the data are clearly presented, and I have only minor comments:

1) In as much as psychosis is more prevalent in males, it is not clear why males were not examined to investigate potential gender differences. Similarly, it is not clear why mood symptoms were not also evaluated. Recognition of gender differences in the prevalence of psychosis should be mentioned in the Introduction and/or Discussion.

2) The authors cite Edwards et al., 1998, which investigated erythrocyte lipids in patients with depression, as support for the assertion that lipid abnormalities contribute to the etiology of schizophrenia. This should be corrected.

3) Although the authors elude to the idea that the Vitamin D content of fish may be important, greater detail should be provided regarding predicted vitamin D levels in the diet to evaluate whether this is a confounding variable in the omega-3 multivariate analysis. Similarly, fish oils also contain omega-6 fatty acids which may be confounding. This should be addressed.

4) With regards to the J-shaped risk curve for omega-3 intake, it would be worth citing a case-control study finding that the diets of SZ patients contained more PUFA than healthy controls (Strassnig et al., 2005), and Peet et al. (2004) finding that medication-free SZ patients in India and Malaysia exhibited greater erythrocyte DHA levels compared with healthy controls.

5) An important confounding variable not accounted for in the multivariate model is family history of psychiatric illness. This should be declared as a limitation of the study.

Level of interest: An article of importance in its field
**Quality of written English:** Needs some language corrections before being published

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

**Declaration of competing interests:**

I declare that I have no competing interests