Reviewer's report

Title: Dietary fat intake and quality of life: the SUN project

Version: 2 Date: 19 September 2011

Reviewer: Torukiri Ibiebele

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- Major Compulsory Revisions

Results:

1. In Table 1, you show that sex and age were associated with intake of saturated fatty acid and transfatty acids. You also stated under statistics section that age, sex, and alcohol were adjusted. However, you left out this key variables in the Models 1 and 2 under Tables 2 and 3 in your regression analyses model.

I would like to explore other factors that may be associated with mental and physical health and adjust for those. The author rightly mentioned in the discussion the plausibility of poor diet as result of mental health problem rather than a causal factor factor. Do you have socio-economic variables such as income, housing, number in a household etc to adjust for?

2. The statement "No association was observed between PUFA, MUFA or the ratio n-3 vs. n-6 intake and the SF-36 domains. Neither was found for seed oils, butter, margarine or olive oil (data not shown)" should be moved to the end of the results section.

3. The statement "Moreover a statistically significant dose-response relationship (p for trend<0.05) was found for each domain" should be modified to read "Moreover a statistically significant dose-response relationship (p for trend<0.05) was found for each domain except mental health".

4. Second to last paragraph of result section:
   TFA and role physical: I will not consider the ptrend as important because of the confidence intervals of the results in the other quintiles.

Discussion

1. 1st paragraph:
   The association remained significant social functioning and role emotions after further adjustment - not for vitality and mental health.

2. For epidemiological/nutritional purposes, could the authors explain further the meaning of the associations found in these results?. For example: are people with high intake of transfatty acid more likely to perceive themselves as more anxious, more depressed, or have more mental health problems or feel more
pain in general etc? Furthermore, could the authors speculate on what differences of 1.5-3.0 as seen in this result signify. Could you explain more, the ‘clinical significant alluded to in the discussion in paragraph 2 of the discussion?

- Minor Essential Revisions

The general classification of the parameters of health status into physical and health domains, with further sub-groups in each domain which are also domains in their own right is a bit confusing. Any attempt made to clarify this would help the readership.

1. Tables 2,
   Energy-adjusted TFA intake (g/day) (median), should be energy-adjusted SFA
   Energy-adjusted SFA intake (g/day) (median), should be energy-adjusted TFA
2. Tables 3,
   Energy-adjusted TFA intake (g/day) (median), should be energy-adjusted SFA
   Energy-adjusted SFA intake (g/day) (median), should be energy-adjusted TFA

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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