Reviewer’s report

Title: Adherence to low carbohydrate diet and prevalence of psychological disorders in adults

Version: 0 Date: 08 Aug 2019

Reviewer: Zumin Shi

Reviewer's report:

The study assessed the cross-sectional association between a low carbohydrate score and psychological disorders in adults. The topic is of interest. However I have some major concerns.

1. The conclusion is not supported by the results. A high score of low carbohydrate diet was associated with a high prevalence of depression based on Figure 1 and the multivariable logistic regression model. A non-linear association between the score and the psychological disorders should be tested. The diet score can be used as a continuous variable in the analysis.

2. The prevalence of the psychological disorders was above 10%. Prevalence ratio should be used instead of odds ratio to assess the association between the exposure and the outcomes. It can be done by Poisson regression with robust variance in Stata.

Minor

Table 3: Reference group should not have odds ratio of zero.
It is not clear why the authors choose diabetes and colitis as confounding factors.

The rationale for the multiple multivariable model should be given.

Level of interest
Please indicate how interesting you found the manuscript:

An article of importance in its field

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable
Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors’ responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal