Reviewer’s report

Title: Diet, a new target to prevent and treat depression?

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Reviewer: Miguel Roca

Reviewer’s report:

The manuscript is a review of the role of diet and depression. The topic is an important and a promising field of research. The author’s conclusion is that further observational studies as well as randomized studies are needed to confirm preliminary findings.

There are some major and minor questions regarding the publication of the paper in BMC Medicine. The design of the paper is confuse between “prevention” and “treatment” of depression. The relation with diet as a prevention is clear in cardiovascular disease but not in affective disorders. “Truly causal relationship” in psychiatry is a question without scientific answers. “Risk of developing depression” it’s different than “primary prevention of depression”. At the background section the authors said: “relatively little etiological longitudinal research has been conducted....” The term “etiological” induces here more confusion about the question, as well as the considerations on the metabolic syndrome and cardiovascular disease. Metabolic and inflammatory processes are one of the factors related and studied. The paper not includes works on the use of toxics, lifestyle, etc of the depressive patients or the psychological symptoms (depressive, anxiety, adjustment symptoms) related to the diagnosis of a medical condition in a non-depressive patient.

At the “Prevention or treatment” section, the manuscript said: “.... Clinical trials have been generally designed to assess the impact of nutritional interventions on the clinical course of depression...... Moreover, none of these trials has analyzed the effect of an overall dietary pattern”. In the paper of Garcia-Toro et al (J Affective Disorders, 2012, 140(2):200-3) eighty non seasonal depressive outpatients on antidepressant treatment were randomly assigned either to the active or control group and four hygienic-dietary recommendations were prescribed together. Outcome measures were assessed before and after the six month intervention period. The results show a better evolution of depressive symptoms in the active group, suggesting lifestyle recommendations as an effective antidepressant complementary strategy in daily practice. Maybe the paper was not published before the redaction of the current manuscript.

At page 4, the sentence “the intake of trans fatty acids or the consumption of food rich in this kind of fats like fast food or commercial bakery have been recently reported as contributors to higher depression risk” is based just in one association study: consumers of fast food and socioeconomic levels need to be considered as a bias in this sample.
Finally, the limitations included in the “strengths and limitations” section regarding to depression assessment (scales, cut-off points, self-reported evaluations…..) are not especially relevant for this topic. The diagnosis and assessment of severity of a mental disorder is a methodological problem for all the studies with psychiatric patients.

Minor questions.

-Abstract. What are the “similar results” of the cardiovascular studies?.

-Some of the sentences in different sections are not followed by bibliography.

The quality of the English is acceptable and it’s not necessary that the paper be seen by an expert statistician.

The paper can be revised and submitted to BMC Psychiatry.

Quality of written English: Acceptable

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