Reviewer's report

Title: Use of folate and vitamin supplementation among U.S. adults with depression and anxiety: a cross-sectional, population-based survey

Version: 1 Date: 15 February 2011

Reviewer: ALMUDENA SANCHEZ-VILLEGAS

Reviewer's report:

This is a cross-sectional epidemiologic study aimed to assess the association between folate and vitamins supplements intake and depression and anxiety diagnosis (past o current) in a sample of adults in the US and Puerto Rico.

Major points

INTRODUCTION
- The aim of the study is not enough justified. Which is the interest of the analyses?
- A formulation of a hypothesis in a more detailed, justified and comprehensive way is needed.

METHODS
- Were participants with a history or current use of antidepressants or with other psychiatric drugs (antipsychotics, anxiolytics) or other drugs that may be linked to depression (e.g. corticosteroids) included in the study? Were other mental disorders that have depressive features (eating disorders, bipolar disorder) taken into consideration?
- The authors should include a definition regarding the meaning of vitamin supplement use. Which vitamins? Multivitamins including folate? Multivitamins without including it?
- Has the question about the physician diagnosis of depression or anxiety been validated? Validity of the diagnosis of depression is a crucial point.
- What’s about depressive disorder severity and diagnosis date? It’s important to know when the diagnosis was made and to analyse its contribution to the results. This data should be taking into account.

Statistical analysis
- Why are not the results adjusted for energy or alcohol intake? The authors should consider incorporating these variables in all the models.
- Other major potential confounders include psychosocial factors such as loneliness, social network or socio-economic status or the presence of other diseases related to depression such as cardiovascular disease.
DISCUSSION

-The discussion lacks discussion on vitamin use and depression - please amend

Limitations

-The authors should include a paragraph explaining the likelihood (and consequences) of reverse causality because of the cross-sectional design of the study.

-Lack of control for several important confounders such as diet (dietary intake of vitamins) and other behavioural factors such as alcohol intake.

-There is a concern on potential confounding by medical conditions comorbid with depression. The authors make no mention of specific diseases (especially cardiovascular disease) at follow-up as confounders in models.

Table 2.

Which is the meaning of the p-value showed in the table? The authors show two comparisons (<1 t/day and 1-4 t/day) for each independent variable (ever depression, ever anxiety or current depression) but only one p-value.

It seems that this p value corresponds to the association between disease diagnosis and likelihood of taking folate supplements 1-4 times per day. Please, include a new column for the other association or erase these p-values.

Table 3.

Which is the meaning of vitamin supplements?

Why did not the authors use the same categorization than that for folate use (never, <1 t/day; 1-4 t/day)?.

Figures 1 and 2.

Please add some figures regarding the number of participants in each category of disease.

Please, add information regarding the adjustments in the footnote of the figures.

Figure 3.

The authors show the weighted prevalence of depressive symptoms associated to folate and supplements use. Why not the ORs?

Are these prevalence data adjusted for possible confounders? Why not?

The likelihood of reverse causality is very probable. It’s possible that subjects more depressed have unhealthy behaviours and less interest in health status.

Minor points

ABSTRACT

Background
The sentence “this study examined the percentages and the likelihood of US…” is unclear. Please, rewrite.

INTRODUCTION
The authors only include a reference regarding the evidences about the effect/or lack of effect of dietary folate intake on depression (ref 22) Please, include some more such as:
Am J Clin Nutr 2010 92: 2 330-335:
Br J Psychiatry 2010;197:45-54 (clinical trial)

DISCUSSION
-Line 3-7. Please, erase the figures showed in the first paragraph of this section. The different values of folate supplement use should be indicated in the results section, not here.

Level of interest: An article of limited interest

Quality of written English: Acceptable

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