Reviewer’s report

Title: Clinical and metabolic response to vitamin D plus probiotic in schizophrenia patients

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Reviewer: Lotje de Witte

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In the study "Clinical and metabolic response to vitamin D plus probiotic in schizophrenia patients" by Ghaderi et al. the authors describe a double-blind placebo-controlled clinical trial in which they tested the effect of vitamin D in combination with probiotic supplementation on schizophrenia. They find a beneficial effect of supplementation on general and total PANSS scores. Although the sample size is small, in light of the higher prevalence of vitamin D deficiency among patients with schizophrenia, the study is certainly of interest and the results are encouraging for follow up studies. The RCT is generally well designed and described. The manuscript could be improved by:

1. A clear description of previous clinical studies that test the effect of vitamin D supplementation in schizophrenia in the introduction. Also include "Vitamin D Supplementation in Chronic Schizophrenia Patients Treated with Clozapine: A Randomized, Double-Blind, Placebo-controlled Clinical Trial, by Krivoy et al. Describe the results of these previous studies and how their approach is different from your approach.

2. A description of the distribution of 25-OH-vitamin D in both groups? Did you see a correlation between any of the PANSS score and vitamin D levels at baseline? Did patients with low vitamin D respond better to treatment then non-deficient patients?

3. The discussion is now more a review-like description of how vitamin D may be involved in schizophrenia pathogenesis. A better discussion of the current study and results is more relevant here and it would be interesting to read more about the next future steps that should be taken with these findings (replication of results in larger cohort, tTest effect of vitamin D and probiotic supplementation separately, etc.)

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes
Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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

Not suitable for publication unless extensively edited

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