**Reviewer’s report**

**Title:** The effects of synbiotic supplementation on hormonal status, biomarkers of inflammation and oxidative stress in subjects with polycystic ovary syndrome: a randomized, double-blind, placebo-controlled trial

**Version:** 1  **Date:** 11 Feb 2018

**Reviewer:** Michael O'Reilly

**Reviewer's report:**

Nasri and colleagues present a well-designed study on the effects of synbiotic supplementation compared to placebo in an Iranian PCOS cohort. The study is well designed and suitable for publication once some essential revisions are made.

1. The principal limitation of this study is the lack of a crossover element to supplementation. This means that two heterogeneous groups are being compared, despite the careful matching that was conducted. This needs to be acknowledged in the discussion.

2. Why was insulin not measured before and after in each treatment arm? This may provide some insights as to whether all the observed effects are secondary to insulin resistance.

3. There is not enough in the discussion on PCOS-specific effects. Most of the comparison is made in studies with T2DM or GDM. What is unique about PCOS that makes this a suitable group for the intervention? Insulin resistance alone is not sufficient to discuss in this regard, and greater exploration of androgen excess pathology must be alluded to in discussion.
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?  
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Yes

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I am able to assess the statistics

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