Reviewer’s report

Title: The Impact of an Exercise Intervention on C-Reactive Protein During Pregnancy: a randomized controlled trial

Version: 3 Date: 6 April 2015

Reviewer: Shalini Chawla

Reviewer’s report:

The Impact of an Exercise Intervention on C-Reactive Protein During Pregnancy: a randomized controlled trial by Hawkins et al.

I would classify my comments as ‘Minor Essential Revisions’

1. Introduction - paragraph 1: ‘a meta-analysis of 18 studies by Rebelo et al. found that CRP was higher in women who developed preeclampsia compared to women that experienced an uncomplicated pregnancy’. As this association seemed to be modified by confounders, such as BMI, this should be mentioned.

2. Introduction – paragraph 1: ‘CRP has been associated with oxidative stress and endothelial dysfunction’ – please cite reference.

3. Introduction – paragraph 2: ‘A review of 16 trials by Soares et al. reported reductions in CRP ranging from 30% to 53% with aerobic training or lifestyle (diet and exercise) interventions in non-pregnant women’ - Not all trials reported reduction in inflammatory markers. Three studies showed no change and one study showed an increase in inflammatory markers. I would suggest re-wording to reflect accurate interpretation of systematic review.

4. Conclusions –paragraph 1: ‘women in the exercise intervention experienced an approximately 3% decrease in CRP while the comparison health and wellness arm experienced an approximately 24% increase in CRP’ - figures expressed in percentages can be misleading since any change in CRP is quite small, it might be best to express in absolute values rather than percentages.

5. Conclusions –paragraph 2: would suggest using same denominator for comparison of the various studies cited- ideally absolute values.

6. Conclusions – paragraph 2: Following point should be taken into consideration during interpretation- intensity of exercise may not have been enough to achieve the observed degree of change in CRP as reported in previous studies (ref 31) which may have been limited due to pregnancy or exercise regime. Data should be provided in an appendix to look at intensity of exercise undertaken by participants in this study to be able to draw meaningful comparisons. This is also suggested by the fact that participants who maintained/ increased the exercise showed greater changes in CRP.

7. Conclusions – last paragraph: ‘while we had 80% power to detect a clinically significant mean difference in change in CRP of 1.95 mg/dL’ contradicts ‘We had 80% power to detect a mean difference in CRP between arms of 0.76 mg/dL’
based on a standard deviation of 1.50 mg/dL using a two group t-test with a 0.05 two-sided significance level' in last paragraph of ‘Methods’. Please clarify.

8. Figures show CRP measurements in mg/ L instead of mg/ dl.

**Quality of written English:** Acceptable

**Declaration of competing interests:**

I can declare that I have no competing interest.