Reviewer’s report

**Title:** Preferred intensity exercise for adolescents receiving treatment for depression: A pragmatic randomised controlled trial

**Version:** 1  **Date:** 23 June 2015

**Reviewer:** Tracy Greer

**Reviewer’s report:**

This is a very well-written manuscript describing the use of a preferred-intensity exercise regimen to evaluate changes in depressive symptom severity (using the CDI-2) in adolescents with MDD. There are many methodological strengths to the study, including blinded assessment of outcome measures, minimal eligibility criteria, and six-month follow-up assessment. However, the fact that the study is underpowered is a significant limitation, but one that has been described and acknowledged by the authors. There are some additional limitations that should be addressed, as described below.

- **Major Compulsory Revisions**
  1) Limitations of the work are clearly stated; however, many of them appear throughout the discussion section and should be added to the Limitations sections, along with some additional limitations as noted below.

a. The authors discussed lack of statistical power as one of the primary contributors to the lack of significance at post-intervention and do explicitly state this in the Limitations section. However, the Conclusion that effects may not occur until six months is misleading given the fact that the study was underpowered.

b. The selection of 6 weeks for treatment duration is low compared to other studies of treatments for depression, both pharmacological and nonpharmacological, with many of the studies examining exercise as a treatment for depression in adults having a duration of at least 8 weeks, and some 12 weeks. This may be a primary factor in the post-intervention results being non-significant. The authors acknowledge this as a potential limitation in the Discussion.

c. Although it is worthwhile that the study had limited eligibility criteria in order to be highly generalizable, the inclusion of participants who were moderately active and active at baseline is a limitation, and another possible contributor to the nonsignificant finding at 6 weeks. If these participants were already exercising at baseline, it is unclear how the intervention provided by the study compared to existing levels of activity. Did participants continue with their existing activities while in the study? This should also be acknowledged as a potential limitation. Additionally, it is interesting that there were fewer inactive and more moderately active participants in the TAU group at week 6, suggesting that there was change in activity level within that group.
2) Greater details of the exercise intervention should be reported. Was all exercise aerobic, and what types of exercise were performed? How many minutes of exercise? These factors may be helpful in understanding the results as well.

- Minor Essential Revisions

3) Because the study is evaluating exercise as an adjunctive treatment, it may be more appropriately referred to as an augmentation study throughout the manuscript and abstract.

4) Both the CDI-2 and EQ-5D-5L are relatively new measures. As such, it would be quite helpful to provide some psychometrics to orient the reader to the available information on validity and reliability of these measures, and particularly how they compare to other commonly utilized measures (e.g., Children’s Depression Rating Scale-Revised).

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare that I have no competing interests.