Reviewer's report

Title: A 12-week after-school physical activity improves endothelial cell function in overweight and obese children: a randomised controlled study

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Reviewer: Jeanie Tryggestad

Reviewer's report:

In the current article Park and colleagues have demonstrated that a 12 week exercise program has beneficial effects on anthropometric and cardiovascular outcomes in obese children. The experimental design is unique and well thought out.

Major Compulsory Revisions:

1. The manuscript could use some editing in regard to the English language. Incomplete sentences were common in the article for example the last sentence in the third paragraph of the background and in the discussion, the second paragraph, the sentence beginning with because. There are numerous other areas were potentially a word was left out or the wrong tense of the word was used. These all need to be addressed.

2. In the reporting of the endothelial progenitor cells, the results were reported as a percentage of cells. Most other papers in literature report them as a number per million cells. Given that these cells are so rare, reporting them as a percentage with only 2 decimal points does not give the information that a raw number would. Also it is very interesting that the CD34+ cells in both groups increased after 2 weeks. While the p-value is reported in the exercise group it is not in the control group. It would be interesting to know the p-value in the control group as well. Some explanation for the increase in the control group is also needed.

3. Several places in the discussion the authors mention that they speculate an association between the endothelial progenitor cell number and serum markers, but no statistical analysis such as a correlation coefficient is given. The paper would be stronger if these correlations were run rather than speculating at associations.

4. The description of the exercise methods especially in reference to the next to last sentence of the paragraph. It makes a statement about the participants training on the same equipment used for the 60% of 1 repetition max. This statement is confusing and needs some clarification within the context of the study.

Level of interest: An article of importance in its field
Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests