Reviewer’s report

Title: Influence of antenatal physical exercise on haemodynamics in pregnant women: A flexible randomisation approach

Version: 1 Date: 12 April 2015

Reviewer: Silvia Salvi

Reviewer’s report:

Review

The paper is a flexible randomized trial investigating the haemodynamic effects of regular physical exercise during pregnancy. The topic is not exhaustively investigated in the literature so the contribution of this study is of particular interesting. The title and the abstract accurately convey what has been found. The research question posed by the authors is easily identifiable and well clarified in the introduction of the paper. The quality of English is good.

Minor essential Revisions

About the organization of the manuscript, I would like to suggest this change:

1) About the results of the study, to make easier understanding the findings concerning the haemodynamic effects of the physical exercise, I would like the authors give more emphasis to the difference between the exercise group and the control group. The results are now not clearly described. Dividing the results for each haemodynamic variable is useful but I would like to see for each haemodynamic variable firstly all the findings in the control group (only related to the advancing gestation), secondly in the exercise group (possible related to the exercise) and finally they should explain if there are or not differences among the two groups.

Major Compulsory Revisions

1) About the data presented in the paper, I would like to include the following observation.

Have the authors also investigated the Cardiac Index? If yes, I think it could be interesting completing the results with also this interesting information.

2) About the discussion, the discussion and the conclusion are well balanced and adequately supported by the data. In this paper, the antenatal exercise does not appear to substantially alter maternal physiology with advancing gestation: so they speculated that the already vast changes in maternal physiology mask the influence of antenatal exercise.

However other authors already have suggested that the duration of an exercise programme initiated just after the conception could be too short to result in any significant haemodynamic changes above those already occurring during gestation. It is already well established that the principle haemodynamic
modifications of the pregnancy reach the nadir before 25 weeks.
In this trial, the women are recruited during the late first trimester and the regular exercise in the exercise group was started at 20 weeks. So is it possible that the haemodynamic effect of the regular exercise is not evident because initiated too late in gestation? Please discuss on it in the discussion.

**Level of interest:** An article of importance in its field

**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