Reviewer's report

Title: Physical activity and clustered cardiovascular disease risk factors in young children: a cross-sectional study (The IDEFICS study)

Version: 1 Date: 29 March 2013

Reviewer: José Ribeiro

Reviewer's report:

This is an interesting paper about physical activity and the clustering of CVD risk factors.

The aims of the study are well defined and the methods used are clear and detailed.

The study design is adjusted to the aims of the research, and data is adequately presented.

The conclusions and discussion of the paper is based on the main results of the research, and supported by the data presented.

Although the manuscript is well written and clear, a few points need to be clarified by the authors, and we suggest these Minor Essential Revisions.

In the physical activity methods section, we suggest the author to clarify a few points:

- How did the handle the consecutive amounts of zeros (more than 60 minutes represent not wearing the unit?); although several studies have reported similar methods of research, we suggest the authors to insert a comment about the placement of the unit (waist, wrist, left side or right side, etc.).

- In our opinion it’s already available more suitable equations (than the original by Leger) to estimate the cardio respiratory fitness adjusted to children and adolescents (Barnett; Ruiz; etc.).

- In the methods section about biological samples, authors are using the Andersen et al. method to compute the CVD score, but they need to clarify why are they only using the SBP and not the DBP, and since they used a Tanita BC 420 they should have data about the percentage of body fat, and it could be more adjusted than using the sum of two skin folds!

- I the statistical analysis they report using ANOVA to compare genders, wouldn’t it be more suitable to use independent samples T test, since the only have two independent variables?

- I results authors are reporting data about DBP, but they didn’t used it in the score, why?

The results about the correlations are presenting conflicting numbers regarding
the sample sizes presented in tables; this aspect needs to be clarified.

In the likelihood ratios, we suggest the authors to better clarify the significance levels of the OR, because, although we can find the significance values from the confidence intervals, that is not clear in the tables. We suggest including a note in the tables representing the p value.

In discussion authors present data about the quintiles of PA, but they didn’t presented in methods how did they did it, were the quintiles age and gender adjusted? We suggest the authors to include the minutes of MVPA of the quintiles by gender (maybe including a new table with data for all the quintiles of MVPA by gender).

In table 1, regarding the PA variables we suggest the authors to correct the units for min./day instead of only min

Sample sizes in table 2 and 3 are confusing, since they don’t match the sample sizes in the methods. We suggest authors to clarify.

**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