Reviewer’s report

Title: Physical activity, cardiorespiratory fitness, and metabolic syndrome in adolescents: a cross-sectional study.

Version: 2 Date: 3 July 2011

Reviewer: TRANG HHD NGUYEN

Reviewer’s report:

Version 2: Date 4 July 2011
Reviewer: TRANG HHD NGUYEN

Minor Essential Revisions

1. Background:
   - The recently added paragraph seems too vague and takes long to talk about the adult definition which is unnecessary in this study. Moreover, the authors shouldn’t add the details of criteria used in each definition which makes the introduction overflowing.
   - The background needs to be restructured to be more concise.

2. Method:
   - The method needs to be explored further about the analysis: put more details of how to do the logistic regression, which variables are used…
   - Physical activity thresholds: please clarify on which reference and criteria these thresholds are based.
   - Measurements of blood pressure: “the difference of >2 mmHg in the two measurements”, please clarify why this difference was used.
   - MetS definition used was the ATPIII “in order to compare with studies”. But the references indicated in the methods were not any of Brazilian ones, and in the discussion, the Brazilian studies mentioned didn’t use this definition. Please clarify and make this point comprehensive. I am not yet persuaded of the reason why the authors used the ATPIII definition.

3. Results
   - “Data not shown” must be added for all results mentioned in the text but not in the table or figure
   - The authors need to be very careful as using term “relationship” in the study, the term “association” suggested.
   - The text describing table 1 is not consistent with the content of table 1.
   For example: “p<0.005 for all” can’t be the same as p<0.0001 in the table 1. Please make them consistent.
4. Discussion
- The authors need to work out further about the difference between the prevalence revealed by this study and other prevalence of MetS mentioned. Paragraph “Rodrigues et al….. Janssen criteria” needs to be restructured to interpret the difference mentioned.
- Term needs to be used consistently through all the manuscript: sex or gender, MetS (I found Mets in the methods)
- The paragraph “while the level… cardiovascular risk” has no linking idea with the next paragraph, please correct
- Please provide reference for the quote “the 3-day physical activity record is considered a valid instrument…”
- Do you have limitations while not studying other factors like socioeconomic status, BMI status?

5. Conclusions
- The newly added sentence has no link with the previous one and I can’t understand why the term “cost-effectiveness” was added here which give confusion than ever.

6. Tables and figures
- Table 1: the title needs to be improved; the footnote for “ns” is missing.
- Table 2: it is the component or the individual risk factor, this point needs to be clarified and terms need to be used consistently in the text.
  +The upper range of 95%CI is missing
  +The p-value which is non-significant needs to be presented the same as in table 1
- Table 3: Please present the OR non-adjusted as well
  + Please put the “95%CI” not “confidence interval” only
- Figure 1, 2: Please do not use abbreviations in the title

7. Quality of written English
English editing is still needed. Needs some language corrections before being published
  + Please do not use “one-sentence” paragraph
  + Please add linking ideas

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published
**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.