Reviewer’s report

Title: Effect of living area and sports club participation on physical fitness in children: A 4 year longitudinal study

Version: 1 Date: 21 March 2014

Reviewer: Francisco Jesus J Llorente-Cantarero

Reviewer’s report:

Mayor Compulsory Revisions
1. According to method section
   The authors must clarify the exact meaning of “grade” and why they divided from grade three to six and not from one to six. It is unclear whether this grade is in relation to fitness levels or any other criteria.
   On the other hand, it would be interesting explain better when the whole sample was selected, during the first year or along of the 4 years.

2. Results
   When the authors write about the numbers of participants in a sports club in the first paragraph, they show that “49 children participated in a sports club at least once a week and 17 did not participated…” However, what happen with rest of subjects (106)? Participated or not?
   On other hand, when compared urban and participated in a sports club vs rural and not participated in a sports club, those children who do not participated and live in a rural area presented lower levels of physical fitness. However, it would be interesting know whether the results obtained by rural and no participated children could be treated as low levels of physical fitness if it is compared with standards values for their age and sex. In addition, it should be analyze other variables like sedentary habits to know a possible effect of life style in both zones.
   Finally, the results of table 3 must be also adjusted by participate in a sport club to avoid any confounding factor.

Minor Essential Revisions
1. It would be advisable to use current references in the introduction.
2. It is not recommended speak about a tendency towards a significant because it is going to depend of the size of sample.

Level of interest: An article of limited interest

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.