Reviewer's report

Title: Bioelectrical impedance analysis to estimate body composition, and change in adiposity, in overweight and obese adolescents: comparison with dual-energy x-ray absorptiometry

Version: 5 Date: 5 September 2014

Reviewer: Lars Jødal

Reviewer's report:

In its revised form, the paper is strengthened and the issues raised in the reviews have generally been satisfactorily addressed. Only a few minor points remain, as outlined below.

Minor Essential Revisions:

1. In Table 2 and 4, the sign convention for bias and limits of agreement seem to be the original (difference = DXA value – tested value). This should be changed to agree with the sign convention the authors has adopted for the rest of the paper (difference = tested value – DXA value).

2. With the adopted sign convention for differences, the regression line in Figure 2B slopes downward. In line 312 and 350 this is described as a "strong positive association", which may confuse readers. Please avoid this confusion.
   Suggestion: Given that the nature of the association is described in the following words, the word "positive" could be omitted in both places: "a strong association was observed whereby [etc]".

3. In both Table 1 (line "Obese", rightmost column) and Table 4 (heading "Group A"), a typographical pilgrow character (paragraph mark, "mirrored P") is present, with no apparent meaning. Please either remove the character or the make meaning clear.

4. In lines 368-370, the revised text reads:
   "BIA8 may represent the ‘true’ average value for adiposity in this population, however, further work is required to confirm these findings."
   This formulation seems to indicate that a finding of the paper is that BIA8 may represent ‘true’ average values. However, this is only a possibility, not a finding, if I understand things correctly?
   If the authors agree with this, they should reformulate the sentence. A suggestion:
   "given this uncertainty in the reference method, BIA8 might [instead of may] represent the ‘true’ average value for adiposity in this population, however, further work is required to clarify this issue."
Discretionary Revisions:

5. The abbreviation list at the end of the paper does not seem consistent the order of abbreviation and full working. To make the abbreviated form appear first in each line, it is suggested to switch left and right side in lines 407 (Tanita BIA8), 410 (%BF), and 411 (BMI).

**Level of interest:** An article whose findings are important to those with closely related research interests

**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