Reviewer's report

Title: Ongoing monitoring of data clustering in multicentre studies

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Reviewer: Emilie Vierron

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Comments on: Ongoing monitoring of data clustering in multicentre studies
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For: BMC Medical Research Methodology

Corrections that authors performed really improved the paper. Nonetheless, it remains some points that I would like to highlight:

Major Compulsory Revisions

1) Despite some corrections in measurement methods permitted decreasing the clustering of data for some variables, important center effects are remaining and explanations are lacking for that. For example: ICC’s for head circumference and skinfold thickness are increasing and this may be due (or not !) to data collected in new centers. It would be interesting to know if this point was investigated, may be trough a box plot of these data in December 2009 or may 2010, as done in figures 1a and 1b.

2) Authors mentioned the method they used to perform confidence interval (CI) calculation but did not provide any reference (book or article) for this method. Please add it in the ICC part of the method section. Moreover, it would be more interesting to delete some results in table 1 (for example CCI’s of 12/08, 7/09 and 12/09) to simplify the reading of the table and to add CI for all ICC’s shown in this table 1, as this result give the precision of the estimated ICC’s, and allows the reader to know whether the estimated ICC’s could be really high or not, by consulting the high limit of CI. Finally, CI are results and should be presented in the result section (if mentioned in the text), not in the method section.

3) The last paragraph of the discussion shows results that are not exposed in the paper (how to take account of clustering effect in multicenter studies). This point is interesting but must be placed in the result section, separately from results concerning ICC’s estimations as these are two steps of multicenter data analyses (data monitoring then statistical analysis).

Minor Essential Revisions

4) Page 7 (result section), the sentence “we calculated ICC’s on all continuous measurements using SAS version 9.2” should be placed in the method section
as it describes the statistical tools authors used.

Discretionary Revisions

5) Pages 5 and 6 (the PROBIT study): two sentences indicate that pediatricians obtained parental consent and child’s assent. Please, correct these paragraphs.

6) Pages 9 and 10, please add the text “(not shown)” at the end of the sentences “A box plot graph of SBP suggested that a handful of polyclinics had notably higher mean blood pressure measurements” and “A box plot of sitting height by clinic from this download confirmed that measurements were more consistent across clinics”.

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