Reviewer’s report

Title: Correction of self-reported BMI based on objective measurements: a Belgian experience

Version: 0 Date: 16 Aug 2017

Reviewer: N Chau

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Correction of self-reported BMI based on objective measurements: a Belgian experience

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Many thanks for the opportunity to read the paper. This is an important topic. However, there are several issues:

- The two samples were very different, especially in terms of participation rate and the region of residence, so that it is difficult to apply a correction determined on the FCS sample to the HIS sample. The application on the HIS would be only indicative to state that the correction changed the prevalence of obesity. It is not sure that the correction is appropriate and provide a more accurate estimation of obesity for the HIS sample (which is unknown, as stated in the conclusion).

- The background variables were rather poor and no hypotheses are shown regarding the region of residence, age group, gender, and education. The region of residence, age, and education were categorized in very large categories without explanations. Certain important factors such as weight perception and health-related factors were not investigated.

- The results are rather poor concerning the background variables.

- Table 2 is complex, difficult to read, and would not suggest clear hypotheses. Is the correction equation a multiple regression model? The correction equation would be more useful by showing first the association between background variables and difference between measured BMI and self-reported BMI as well as underestimation.

- In the text, the authors consider only the underestimation while the overestimation by certain subjects were possible (as shows Table 2 and Figure 1).

- Overweight is also important and would be more considered as it would be more concerned by underestimation than normal weight (as stated by the authors).

- It may be important to explain and discuss the role of the background variables studied.
In Table 3, why the obesity prevalence with FCS self-reported was generally higher than that with HIS self-reported according to background variables? Do the background variables partly explain the difference? This may be because the participants in the FCS survey knew that this concerned food consumption and were then more attentive to their weight, particularly as they were informed that weight and height measurements will be made later after their self-reporting.

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