Reviewer’s report

Title: Influences of socioeconomic factors on childhood and adolescent obesity by sex in Korea: cross-sectional analysis of nationally representative sample

Version: 2
Date: 28 November 2013

Reviewer: Jinming Yu

Reviewer’s report:

Major Compulsory Revisions
1. Methods part. The authors stated that the study subjects were selected using stratified probability proportional to size method from 12 cities. How the stratification was conducted? Specifically, how each subject was selected? Did the author select a whole school, grade, or class?
2. Methods part. How the weight and height of study subjects were measured? Was it self-reported? If it was self-reported, did the author assess the validity of the self-reported weight and height before?
3. Methods part. The authors did not state which variables were considered as confounders and how they were measured.
4. Diet, nutrition intake, and physical activity are most important factors those might confound the association of SES and obesity, did the author consider these variables?
5. Methods part. Although the authors asserted they were only interested in overweight and obesity. It might be more interesting if they included those who were underweight and analyzed the association between SES and underweight.
6. Statistical analysis part. The authors stated that variables were selected using backward elimination and P-value < 0.20 was considered as independent variables. There are many drawbacks using stepwise methods in regression models (Prof. Frank Harrell). The authors should not use this method in risk analysis models.
7. Statistical analysis part. Did the authors check the interactions between the variables?
8. Statistical analysis part. Did the authors take into consideration of sampling design in their analysis?
9. Discussion part. More discussion is needed for the mechanism of SES on overweight.

Minor Essential Revisions
10. For studying SES, it would be better to use “gender” rather than “sex”.
11. Page 2, Abstract-Methods: “The data…come from…” should be changed to “came/was”.
12. Page 2, Abstract-Methods: “ was missing (n=591) and underweight…” should
be “…or…”.

13. Page 2, Abstract-Results: “sex, age, parental interest in weight management of children,” should be “gender, age, and parental ….”

14. Page 2, OR and CI should not be abbreviated.

15. Page 2, since in the Conclusions part, the authors stated that “parental body shape is an important…”, it would be better if the results of “parental body shape” could be presented in Results part.

16. Page 4, “most results have been mixed” and “leading to mixed results”. The word “mixed” might be changed to “inconsistent”?

17. Page 4, “The data …come from…” see comments 11.

18. OR and CI should not be abbreviated in their first presence.

19. Table 2 legend. “Univariable logistic regression…” But in the statistical part, the authors stated they used chi-squared test. These should be made clear which method they used in Table 2.

20. Table 3. Categories with OR=1 as reference should be listed above other categories.

21. Table 3. The authors should explain which variables were included in Model 1 and Model 2 in statistical analysis part as well as table foot note.

Level of interest: An article of importance in its field

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