Reviewer's report

Title: Socio-demographic and behavioural determinants of weight gain in the Swiss population

Version: 2 Date: 3 December 2014

Reviewer: Ilse Swinkels

Reviewer's report:

Major Compulsory Revisions

1. The authors were able to perform longitudinal analyses on the relation between weight gain and several socio-demographic factors. With the high prevalence of obesity worldwide, this might definitely be a relevant study. Furthermore, they argue that this is the first study in the Swiss population in which socio-demographic factors have been studied. However, for me it is not fully clear what the relevance is of this research. A lot of work has already been done on the relation between socio-demographic factors and obesity. This might not have been done in Switzerland, but then I would like to invite the authors to add information in the Introduction why it is important to add knowledge on the Swiss' situation. Furthermore, more recent work on this topic can be used for the references.

2. Elaborating on the first remark, I would be interested in the consequences of the findings for policy makers. One of the findings is that financial difficulties are positively associated with weight gain. What are the implications of this finding for prevention or treatment strategies?

3. In the analyses the relation between obesity and a range of socio-demographic and behavioral factors was studied by multivariable models. The baseline data of the range of factors were used in these models. As the persons were followed for five years changes in these factors might have occurred. Did the authors consider to add these changes to the model?

4. In the paragraph on 'statistical analyses' is stated that stratified analyses were conducted for age groups 35-54 and 55-74 years. However, in the methods and in the tables this is not shown as such.

5. The authors thoroughly analyzed their data. Which I appreciate on the one hand. On the other hand, some outcomes differ by performing different analyses and this raised questions. Especially the presentation of results with mean weight gain and with weight gain > 5 kg raised questions as different factor appeared to be related to one or the other. I think it would be better to choose one of both outcome measures as, at least for me, it is hard to understand what the differences in results mean for the interpretation. Moreover, in the discussion and conclusion factors are mentioned that have been found to be related to only one of both outcome measures. I would choose for not presenting that results as main conclusions.
Minor Essential Revisions

6. The background in the abstract confused me as it states that the focus of the study is the impact of SES on weight gain. But reading the manuscript it appeared that the focus is a broader range of socio-demographic and behavioral factors. This should be used consequently in the manuscript.

7. Persons aged 35 to 75 years were included in the cohort. Please change the highest age-category in 65-75 instead of 65 or older.

8. I assume ANOVA for repeated measures were used?

9. The authors conclude from the results in Table 1 that obese people had a lower rate of weight gain (page 6 lines 130-131). When looking at the mean scores this is true, however, the percentage of persons with weight gain > 5 kg is higher in this group than in the others. I think this means that besides the substantial group of obese patients with weight gain, there was also a large group of obese patients with weight loss. Probably more weight loss occur in the obese patients than in the group of overweight and normal weight as the medical need is higher. This results in a lower mean. However, I believe this should be distinguished in the results.

10. How was physical activity measured?

11. The number of patients can be added to the titles of the tables

Discretionary Revisions

12. In lines 165-168 is argued why smoking at baseline was positively associated with weight gain. An explanation might also be that these people in general live less healthy than non-smokers resulting in less healthy eating habits and less physical activity.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.