Reviewer’s report

Title: Psychosocial work environment factors and weight change: a prospective study among Danish health care workers

Version: 2 Date: 26 June 2012

Reviewer: Eira Roos

Reviewer’s report:

In general, the aim of the study is well motivated and the study design is appropriate. It is interesting that the study analyzes the weight change which is rarer approach. Also the use of bidirectional weight change adds value.

Here are some comments:

Major Compulsory Revisions:

1) In the last paragraph of the chapter “Results” terms “total model”, “adjusted model” and “final model” are used, but it is unclear what models they are referring to. Please specify what these models include.

2) More information is needed regarding the statistical methods and the interpretation of odd ratios. Now it is not clear how the odd ratios were obtained. Which procedure was used? Only when considering BMI as continuous variable it is mentioned that SAS Proc Mixed was used. For the psychosocial work factors such information is not available. Were the psychosocial work factors treated as continuous variables, or were they dichotomized? If the variables were treated as continuous, some of the achieved odd ratios per unit increase of the psychosocial variables seem disproportionally large considering that the scales of the work variables is said to be 0-100. Additionally, I suggest sensitivity analyses: are the associations between the work factors and bmi change similar if the work factors are treated as categorical variables or as continuous variables.

Discretionary Revisions:

The text could benefit from discussing following questions:

1) Why was +/-2kg/m2 chosen as a cut-off? What is the authors’ interpretation of the different outcome when using weight as a continuous variable?

2) When considering the original study population (n=12746) the attrition rate was quite high (participants n=4135). Is there any knowledge how well the participants represent the original study population? What kind of bias could high attrition cause?

3) Men and women were analyzed separately, but the amount of men was very low. It could be informative to report the amount of participants for regression analyses, as it is said that 20 men were excluded additionally because of missing
information. For example, now the amount of men who lost weight seems to be 8, but is it even lower? I would be quite cautious to draw any conclusions from such a small group.

4) Concerning the issue of multicollinearity:
In the chapter “Statistical analyses” it is reported that “we checked for multicollinearity…”, however, in the chapter “Results” only pair-wise correlations are reported. It is therefore unclear if you have used explicit tests for multicollinearity (such as proc REG with the /collin and /vif options) or not.

5) Do you think that multiple testing affects the results?

Minor Essential Revisions not for publication:

1) Material and Methods:

“Table 1 present descriptive characteristic of participants..” ->presents descriptive characteristics of the participants

**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.